

**SUPER EM PRODUCT BRIEF**  
ODOUR CONTROL, WASTE &  
SEWAGE TREATMENT & WATER  
REMEDICATION





## ODOURS, WASTE, WATER AND NATURAL SANITIZATION

Super EM is a concentrated, all-natural, biological solution which eliminates odours, breaks down solid organic waste and reduces BOD, COD and Suspended Solid levels in waste water.

Super EM biologically consumes odour-causing toxins and breaks down waste. Super EM is made up of a unique blend of probiotic microorganisms which are highly effective in controlling algae and pollution build-up in small to large water bodies. These non-pathogenic bacteria consume nutrients that cause excess algae, restore water purity and aid in biological filtration.

When used to handle odours, Super EM attacks the sources of the problem, rather than merely “deodorizing” the symptoms. Foul smelling odours are caused by high levels of ammonia, hydrogen sulphide and methane. These noxious organic compounds actually serve as a food source for the beneficial and efficient microbes in Super EM. Misting or fogging areas will immediately reduce odours and consistent application of Super EM will eliminate the source of foul odours before they occur.

Super EM is not only effective at breakdown of waste solids and harmful chemicals, but also eliminates disease causing bacteria – preventing harmful bacteria from establishing a population in any environment to which Super EM is applied.

Super EM is highly effective in the following areas:

- Eliminates 90-100% of all odours from septic tanks, industrial and domestic waste and waste/stagnant water.
- Breaks down organic solid waste found in septic tanks, drains and sewers.
- Drastically reduces fly and mosquito populations in areas where there are odours, such as pit-toilets, wastewater and rubbish sites.
- Reduces ammonia, phosphate and nitrate levels.
- Beautifies ponds and lakes and improves clarity.
- Improves environment for fish and wildlife in ponds, lakes and rivers

# APPLICATION GUIDE

**NOTE:** *Volumes and applications stated below are a general guideline. Please contact Efficient Microbes for a free program personalized to your operation.*

## **SEPTIC TANKS AND STANDING SEWAGE:**

The application site and dosage amounts are dependent on the type of treatment system, the age of the system, and the goals of the operation. Application rates can vary from 1: 100 to 1: 10,000. The average rate into a treatment system is around 1: 1,000 (based on daily flow).

## **PIT LATRINES:**

For initial treatment on an average sized pit-latrine, pour 1L Super EM into latrine, followed by 500ml every 2 weeks thereafter. After system has stabilised and odours have reduced this can be reduced to 250ml every 2 weeks.

## **DOMESTIC CLEANING AND SANITIZATION:**

Dilute Super EM 1:10 with water and apply to surfaces for natural probiotic inoculation and sanitization.

## **DRAINS AND ODOURS:**

Dilute Super EM 1:5 with water and pour down drain. Spray around surfaces if possible.

## **SMALL PONDS:**

Apply 200ml Super EM per 1000L of water. Super EM can be poured directly into the pond. Try to pour over as wide an area as possible (not all in one place) to ensure good spread of microbes. Thereafter, apply Super EM at a rate of 100ml/1000L per week.

## **LARGE PONDS AND LAKES:**

*The general program for large ponds or lakes is as follows:*

**1st treatment:** 170L/hectare of water (depth is irrelevant). Ideally the product would be sprayed on the surface of the lake, but failing that try to distribute product equally around the shores of the lake.

**2nd treatment:** Apply 2 weeks after first treatment at a rate of 80L/hectare.

**Subsequent treatments:** Apply at rate of 60L/hectare/month until water clarity has been restored.

*It is important to maintain the monthly treatment in order to control algae growth effectively. Please note that after heavy rains or high chemical loading, it may be necessary to increase the dosage rate.*

# MATERIAL SAFETY DATA SHEET

**MATERIAL:** Efficient Microbes Super EM  
**CODE:** SU001  
Updated: 5.12.2012

**PRODUCT NAME:** Super EM  
**DISTRIBUTED BY:** Efficient Microbes cc  
**COMPANY REG #:** 2006/184281/23

## SPECIES IN SUPER EM:

Bacillus subtilis, Bifidobacterium animalis, Bifidobacterium bifidum, Bifidobacterium longum, Lactobacillus acidophilus, Lactobacillus buchneri, Lactobacillus bulgaricus, Lactobacillus casei, Lactobacillus delbrueckii, Lactobacillus fermentum, Lactobacillus plantarum, Lactococcus diacetyllactis, Lactococcus lactis, Rhodopseudomonas palustris, Rhodopseudomonas sphaeroides, Saccharomyces cerevisiae, and streptococcus thermophilus.

## SECTION I - PRODUCT IDENTIFICATION

**GENERAL/ GENERIC NAME:** Liquid Microbial Inoculants  
**HAZARD RATING: HEALTH:** 0 Normal Material  
**FIRE:** 0 Will not burn  
**REACTIVITY:** 0 Stable

## SECTION II - HAZARDOUS INGREDIENTS

No hazardous ingredients present; not hazardous to humans, animals or plants.

## SECTION III - PHYSICAL DATA

**BOILING POINT:** >100 °C  
**SPECIFIC GRAVITY:** 1.2 (25°C)  
**VAPOR PRESSURE:** N/D  
**SOLUBILITY IN WATER:** Complete  
**VAPOR DENSITY:** Air = 1;  
**MELTING POINT:** N/A  
**% VOLATILE BY VOLUME:** 0  
**EVAPORATION RATE:** Equal to water  
**APPEARANCE AND ODOUR:** Dark brown liquid; sweet, fermented smell.  
**pH OF SOLUTION:** < 3.50+0.20

## SECTION IV - FIRE AND EXPLOSION INFORMATION

**FLASH POINT:** N/A  
**HAZARDOUS DECOMPOSITION**  
**BYPRODUCTS:** None  
**EXPLOSION LIMIT:** 0  
**FIRE FIGHTING PROCEDURES:** N/A  
**EXTINGUISHING:** N/A

SPECIAL FIRE &  
EXPLOSION HAZARDS: None

#### **SECTION V - HEALTH HAZARD DATA**

PERMISSIBLE EXPOSURE LEVEL: None; see Section II  
HEALTH HAZARDS: None  
CARCINOGENICITY: Non-carcinogenic  
EFFECTS OF CHRONIC  
OVEREXPOSURE: None  
PRIMARY ROUTES OF ENTRY: Skin contact, Eye contact, Ingestion, Inhalation

#### **SIGNS AND SYMPTOMS OF EXPOSURE:**

SKIN: None  
EYES: May cause eye irritation  
INHALATION: None  
INGESTION: May cause gas

#### **FIRST AID:**

IF ON SKIN: None  
IF ON EYES: Flush with fresh water  
IF INHALED: None  
IF INGESTED: Drink water

#### **SECTION VI - REACTIVITY DATA**

HAZARDOUS POLYMERIZATION: Will not occur  
STABILITY: Stable with no toxic fumes.  
INCOMPATIBILITY: None  
HAZARDOUS DECOMPOSITION  
OR BYPRODUCTS: None; biodegradable

#### **SECTION VII - SPILL OR LEAK PROCEDURES**

IN CASE OF LEAK OR SPILL: Mop up with fresh water, sewer disposal  
WASTE DISPOSAL METHOD: Sewer disposal  
HANDLING AND STORING  
PRECAUTIONS: Store at room temperature  
HAZARDOUS WASTE: No

#### **SECTION VIII - HANDLING AND STORAGE**

##### **MINIMUM/MAXIMUM STORAGE**

TEMPERATURE: 2°C to 49°C  
HANDLING: Keep containers closed when not being used. This product presents a weak off-gassing of organic volatiles. Avoid direct or prolonged breathing off-gas.  
STORAGE: Store in closed containers. Store in an area that is clean, dry, isolated from all toxic and harmful substances.

# ABOUT EFFICIENT MICROBES

Started in 2006, Efficient Microbes is a privately registered company dedicated to the use of beneficial microbes for the improvement of human health, livestock and pet health, agriculture and soil health and environmental sustainability. The company is based in Durban, South Africa.

Efficient Microbes is committed to the consumer and to the environment, and offers the most effective and environmentally friendly solutions to a large number of problems that are normally solved with medicines or harsh chemicals.

For more information visit our website, or contact us for assistance in any area.



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