

MATERIAL SAFETY DATA SHEET

Introductory Details

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Date of preparation : 12 January 2004

Date revised : 3 June 2008

SECTION 1 : CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

1.1 Product Details

Product Name : Microbial fertilizer
Trade Name : Deliver
Chemical Name : Starch, coal, and phosphate rock
Chemical Formula : -
Molar Mass : -
Chemical Family : -
Manufacturer's Code : -
Use : Fertilizer

1.2 Company Identification

Manufacturer : Available upon request

Importer/Distributor

Name and Address : Agricultural Chemicals (M) Sdn. Bhd.
962, Lorong Perusahaan 8, Taman Perindustrian Perai,
13600 Perai, Pulau Pinang, Malaysia.
Telephone Number : 604-390 7988
Emergency Telephone Number : 604-390 7988

1.3 Contact Point

Designation : Ms. Cheong Wai Ching, Product Support Manager /
En. Labib bin Yusof, Administrative Assistant
Tel. No. : 604-390 7988

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SECTION 2 : COMPOSITION/INFORMATION ON INGREDIENT

Chemical Name	CAS No.	Proportion	Exposure Limit	Toxicity Data
Weathered coal	-	69 - 70%	Not applicable	Not applicable
Phosphate rock	-	19 - 20%		
Starch	-	9 - 10%		
Water	-	< 3%		
Yeast	-	2 - 4%		

SECTION 3 : PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: Granular (Spherical) with diameter ranging from 2.5 to 5mm black or dark grey in color and hard
Odour	: No smell when dry. Musty or yeast smell when wet
Solubility	: Insoluble
Boiling Point	: Not applicable
Melting Point (°C)	: Not applicable
Vapour Pressure (mmHg at 25°C)	: Not applicable
Percentage Volatiles	: Not applicable
Evaporation Rate	: Not applicable
Vapour Density	: Not applicable
Specific Gravity	: >1
Flash Point	: No data available
Autoignition Temperature	: >500°C (solid form)
Flammable Limit (%)	: Inflammable

SECTION 4 : HAZARD IDENTIFICATION

Product is chemically stable when dry.

Microbial ingredient is not a human or animal pathogen.

Inhalation of a large amount of dust may cause mechanical irritation of eyes, nose, throat and respiratory passages.

May cause irritation of the mucous membranes, sore throat, sneezing or running nose and eye irritation in sensitive individuals.

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SECTION 5 : FIRST AID MEASURES

Ingestion : Provide supportive care
Eye Contact : Wash eyes with for 15 - 20 minutes.
Skin Contact : In case of skin rash, wash skin with and soap for 15 - 20 minutes.
Inhalation : In case of discomfort, remove the exposed individual to fresh air. Seek medical attention if necessary.
Notes to Physician : No data available

SECTION 6 : FIRE FIGHTING MEASURES

Extinguishing Media : Water spray or fog, foam, carbon dioxide or dry chemical
Fire Fighting Instruction : Fire fighters shall wear full faced self contained breathing apparatus
Special Hazards : CO_x, NO_x and methane

SECTION 7 : ACCIDENTAL RELEASE MEASURE

Leak and/or Spill :
Sweep up the leak/spillage

SECTION 8 : HANDLING AND STORAGE

Handling : Keep material dry. Keep at room temperature. Heat or cold may kill the microbial component.
Storage : Store in cold dry place with adequate ventilation. Keep away from high frequency, strong magnetic and electric fields.

SECTION 9 : EXPOSURE CONTROL AND PERSONAL PROTECTION

Exposure Limit : Not applicable
Engineering Measures : Use in well ventilated area
Personal Protection :
Respiratory Protection : Dust mask
Eye Protection : Goggles
Skin Protection : Gloves
Other : Wash with soap and water after handling.

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SECTION 10 : STABILITY AND REACTIVITY

- Conditions to avoid : Moisture, extreme temperature, high frequency, strong magnetic and electric fields.
Product contains biologically active ingredient that may be activated and degrade other ingredients if material becomes wet. Heat or cold may kill the microbial component.
- Incompatibles : Water and strong oxidizers. May undergo exothermic chemical reaction with strong oxidizing agents
- Decomposition Products : Biologically activated product may produce carbon dioxide, ethanol, and methane. Chemical oxidation may produce CO, CO₂, SO, SO₂ and methane.
- Hazardous Polymerization : No data available

SECTION 11 : TOXICOLOGICAL INFORMATION

- Toxicity Data : Microbial ingredient is not a human or animal pathogen.
- Carcinogenicity : No data available
- Reproductive Effect : No data available
- Effects of Overexposure : Inhalation of dust may cause mechanical irritation of eyes, nose, throat, and respiratory passage in non-sensitive individuals. Ingestion, inhalation or skin contact may also induce allergic reaction in individuals sensitive to cereal or yeast products.
- Chronic Effects : No data available
- Target Organs : No data available
- Medical Conditions Generally Aggravated by Exposure : No data available

SECTION 12 : ECOLOGICAL INFORMATION

- Mobility & Bioaccumulation : Not applicable
- Biodegradability : Not applicable
- Aquatic Toxicity : Not applicable

Overview: Product is very low environmental risk. Microbial component (*Saccharomyces cerevisiae*) is common bake's or brewer's yeast, is not a plant, animal, or human pathogen. The strains of *Saccharomyces cerevisiae* used in NutriSmart have not been altered genetically. Other components of the product (weathered coal, rock phosphate and starch) pose no environmental risks at agronomic rates.

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SECTION 13 : DISPOSAL INFORMATION

Double bag and incinerate or dispose of as Level I biological waste.

SECTION 14 : TRANSPORT INFORMATION

Any international and national regulatory requirements : None

Packing : 1) Either 25kg or 50kg woven bags with inner plastic bag.

2) Prints can be either English or local language

3) Bags will be wrapped with shrink wrap for transportation.

Any other special requirement : None.

SECTION 15 : REGULATORY INFORMATION

CPL Regulation : Not classified as hazardous substance under CPL Regulation.

SECTION 16 : OTHER INFORMATION

Reference :

- a. MSDS
Beijing WonderGrow Biotech Inc.
- b. MSDS
CK Life Science
- c. Guidelines for The Classification of Hazardous Chemicals - DOSH 1997
- d. Guidelines for The Formulation of A Chemical Safety Data Sheet - DOSH 1997
- e. Guidelines for Labelling of Hazardous Chemicals - DOSH 1997

To the best of our knowledge, the information contained herein is accurate. However, we cannot assume any liability whatsoever for the accuracy or completeness of the information contained herein.