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EMERGENCY TELEPHONE - CHEMTREC 1-800-424-9300

MATERIAL SAFETY DATA SHEET

Revised 6/21/05

SECTION I PRODUCT INFORMATION

TRADE NAME: MicroEssentialsSZ

COMMON NAME: Monoammonium Phosphate + Sulfur and Zinc
Monobasic Ammonium Phosphate + Sulfur and Zinc
Ammonium Dihydrogen Phosphate + Sulfur and Zinc
MAP + S + Zn

HMIS RATING: Health Hazard-1
Fire Hazard-0
Reactivity Hazard-0
Specific Hazard-none

C.A.S. NUMBER: 7722 - 76 - 1
7783 - 20 - 2
7704 - 34 - 9
1314 - 13 - 2

CHEMICAL FAMILY: Ammonium Phosphates

SECTION II INGREDIENTS

FORMULA: $(\text{NH}_4)_2\text{HPO}_4 + (\text{NH}_4)_2\text{SO}_4 + \text{S} + \text{ZnO}$

COMPOSITION:

Phosphate as P_2O_5	40.0%
Nitrogen as N	12.0%
Water	.60%
Sulfur as S	5.0%
Sulfur as $(\text{NH}_4)_2\text{SO}_4$	5.0%
Zn	1%

SECTION III HAZARD IDENTIFICATION

CLASSIFICATION: Non-Toxic

EMERGENCY CONCERNS: None Established

PRECAUTIONARY MEASURE: Avoid breathing dust
Avoid ingestion
Avoid excessive contact with eyes
Use in adequate ventilation

OVEREXPOSURE CONDITIONS: Acute: Unknown
Chronic: Unknown

SECTION IV FIRST AID MEASURES

IMMEDIATE TREATMENT:	If in eyes: Flush with plenty of water for at least 15 minutes. Get medical attention as soon as possible. If on skin: Wash contaminated area with soap or mild detergent and water. If chemical or solution soaks through clothing, remove clothing in area and wash contaminated skin as above. If irritation persists after washing, seek medical attention. If inhaled: Move to fresh air. Treat symptomatically. Get medical attention promptly. If ingested: Give large quantities of water to patient if conscious. Induce vomiting and seek medical attention.
FIRST AID TREATMENT:	Same as above
A NOTE TO PHYSICIAN:	Not applicable

SECTION V FIRE FIGHTING MEASURES

FLASH POINT:	Not Detected, > 200°F
MINIMUM EXPLOSIBLE CONC.(g/m³)	Not Explosible
FIRE FIGHTING HAZARDS:	NH ₃ fumes may be released.
APPROPRIATE EXTINGUISHING MEDIA:	Small fires: Water spray, foam, dry chemical or CO ₂ Large fires: Water spray, fog or foam
SPECIFIC PROTECTIVE EQUIPMENT:	Wear self-contained breathing apparatus with full protective clothing

SECTION VI ACCIDENTAL RELEASE MEASURES

CONTROLLING SPILLS:	Small spills: Carefully shovel material into dry container. Remove from site Large spills: Use same procedure as above. Contact proper local, state, or federal regulatory agency (ies) to ascertain proper disposal techniques and procedures. Keep away from storm sewers and other water bodies.
PPE:	Wear respiratory equipment to avoid breathing dust.

SECTION VII HANDLING AND STORAGE

STORAGE CONDITIONS:	None Listed
HANDLING PROCEDURES:	Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling. Maintain proper hygiene practices when handling this product.

SECTION VIII EXPOSURE CONTROLS / PPE

EXPOSURE LIMITS:	OSHA Permissible Exposure Limits (PEL): Unknown ACGIH Threshold Limit Value (TLV): Unknown
PPE:	Respiratory Protection: Single use dust respirator Skin Protection: Protect open wounds Eye Protection: Eye protection should be worn at all times.
ENGINEERING CONTROLS:	None established

SECTION IX PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE / ODOR / COLOR: Brown, granulated solid material with slight odor.

BOILING POINT(°F): Not applicable

MELTING POINT (°F): Not applicable

VAPOR PRESSURE (mmHg): Not applicable

SPECIFIC GRAVITY (H₂O = 1): Not applicable

% VOLATILE BY VOLUME: Not applicable

VAPOR DENSITY: Not applicable

SOLUBILITY IN WATER: 20°C 85.4%

EVAPORATION RATE (BUTYL ACETATE = 1): Not applicable

MOLECULAR WEIGHT: 115.0
132.0
32.1
81.4

PHYSICAL STATE: Solid

DENSITY - BULK: (Packed) 62.30lbs./ft³

pH: (1% Sol.) 4.3

SECTION X STABILITY AND REACTIVITY

STABILITY: Stable

HAZARDOUS POLYMERIZATION: Will not occur

CONDITIONS AND MATERIALS TO AVOID: Extreme temperatures

HAZARDOUS DECOMPOSITION PRODUCTS: Extreme temperatures such as a fire causes formation of toxic fumes of PO_x and NH₃

SECTION XI TOXICOLOGY INFORMATION

PRODUCT TOXICOLOGICAL DATA: Mammalian:
Oral LD₅₀ OECD Guideline 425 (rat): >2,000 mg/kg
Dermal LD₅₀ OECD Guidelines 402 (rat): >5,000 mg/kg

Not found to be toxic by oral exposure as defined by OSHA. Based on toxicity data for other ammonium compounds (i.e., ammonium nitrates), not expected to be toxic by dermal exposure as defined by OSHA.

SECTION XII ECOLOGICAL INFORMATION

ECOTOXICOLOGY:

Aquatic:
Fish 96 hour LC₅₀: OECD Guidelines 203 (rainbow trout): >86mg/L
Non-toxic to aquatic organisms as defined by USEPA.

SECTION XIII DISPOSAL CONSIDERATIONS

WASTE DISPOSAL CONSIDERATIONS Pick up with shovel and broom and broadcast as fertilizer using proper agriculture and soil management.

SECTION XIV TRANSPORT INFORMATION

SHIPPING NAME: Not regulated by D.O.T
HAZARD CLASS: Not applicable
D.O.T. NUMBER: Not applicable

SECTION XV REGULATORY INFORMATION

REPORTABLE QUANTITIES: Not on the 302 list of SARA reportable quantities
HAZ WASTE NO: None established
EPA REGISTER NO: None established

SECTION XVI OTHER INFORMATION

REFERENCES: Sax and Lewis, *Dangerous Properties of Industrial Materials*, seventh edition, Van Nostrand Reinhold Co., N.Y., 1989.

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