

FOLI-ZYME GA**MATERIAL SAFETY DATA SHEET (1/99)****SECTION I PRODUCT IDENTIFICATION****NFPA HAZARD RATINGS**

HEALTH HAZARD 1 FIRE HAZARD 0 REACTIVITY 0

SARA/TITLE III HAZARD CATEGORIES (See Section IX)

Immediate (ACUTE) Health: none Reactive Hazard: none
 Delayed (Chronic) Health: yes Sudden Release of Pressure: not applicable
 Fire Hazard: none

Company Name: STOLLER ENTERPRISES, INC.
 Address: 8580 Katy Freeway, Suite 200
 Houston, Texas 77024-1818 U.S.A.

Emergency Phone Number: CHEMTREC 1-800-424-9300

Phone Number for Information: 713-461-1493

Chemical Family: Organic salt solution

Chemical Name & Synonyms: Metallic salts

Formula: See **SECTION II COMPOSITION/INGREDIENTS INFORMATION**Trade name & Synonyms: **FOLIZYME GA (8%)****SECTION II COMPOSITION/INGREDIENTS INFORMATION**

INGREDIENTS:	CAS #	Approx. %	TLV
Zinc chloride	7646-85-7	<5	TWA 1 mg /m ³ as Zn
Manganese chloride	7773-01-5	<5	C1 5 mg /m ³ as Mn
Copper chloride	10125-13-0	<5	1 mg/m ³ as Cu
Ferric chloride	7705-08-0	<5	TWA 1 mg/m ³ as Fe
Cobalt sulfate	13455-34-0	<1	100 mg/m ³ as Co
Sodium molybdate	10102-40-6	<1	5 mg/m ³ as Mo

SECTION III PHYSICAL AND CHEMICAL CHARACTERISTICS**BOILING POINT:** 110°C (230°F) **VAPOR PRESSURE (mm/Hg):** <12 mm @ 25°C (approx)**MELTING POINT:** N/A **VAPOR DENSITY (air = 1):** >1**SPECIFIC GRAVITY:** 1.23 **REACTIVITY IN WATER:** N/A**SOLUBILITY IN WATER:** >99% **EVAPORATION RATE (Ethyl Ether = 1):** <1**APPEARANCE AND ODOR:** greenish clear liquid with no odor.**OTHER:**

FOLIZYME GA

SECTION IV FIRE AND EXPLOSION DATA**FLASH POINT:** NOT ESTABLISHED**FLAMMABLE LIMITS:** NOT ESTABLISHED**LEL:** **UEL:****EXTINGUISHER MEDIA:** Water, CO₂, or dry chemicals.**SPECIAL FIRE FIGHTING PROCEDURES:** Wear self-contained breathing apparatus.**UNUSUAL FIRE AND EXPLOSION HAZARDS:** Toxic fumes may be generated at elevated temperatures.**SECTION V PHYSICAL HAZARDS (REACTIVITY DATA)****STABILITY:** Stable**CONDITIONS TO AVOID:** Stable under normal conditions.**INCOMPATIBILITY, MATERIALS TO AVOID:** Oxidizers.**HAZARDOUS DECOMPOSITION PRODUCTS:** Oxides of sulfur and nitrogen.**HAZARDOUS POLYMERIZATION:** None.**SECTION VI HEALTH HAZARDS****A. EXPOSURE LIMITS**

OSHA Permissible Exposure Limit (PEL): NOT ESTABLISHED

Threshold Limit Value (TLV): 1 mg/m³ as Zn
 1 mg/m³ as Fe, ceiling level.
 5 mg/m³ as Mn
 1 mg/m³ as Cu, ceiling level.

B. EFFECTS OF OVER EXPOSURE**1 ACUTE****Inhalation:** May be irritating to respiratory tracts.**Eyes:** May cause severe irritation and lesions.**Ingestion:** May chemically burn mouth and throat; may cause nausea, vomiting, abdominal pain and diarrhea.**Skin:** May burn on extended contact or on moist or injured skin.**2 CHRONIC:****C. EMERGENCY FIRST AID PROCEDURES:****EYES:** Flush thoroughly with running water for 15 minutes. Seek medical attention.**SKIN:** Wash thoroughly with soap and water. Rinse thoroughly. Seek medical attention if inflammation occurs. Do not attempt to neutralize with chemicals.**INHALATION:** Remove from exposure area if irritation exists from mists in the event of massive inhalation. Seek medical attention.**INGESTION:** Give as much warm water as possible, induce vomiting and call physician immediately. Never give anything by mouth to an unconscious person. If symptoms of central nervous system stimulation occur or skin rash is present, give 10% dextrose in water or saline as fluid balance indicator.

D. ADDITIONAL INFORMATION:

ANIMAL TOXICITY DATA: Ferric chloride LD₅₀ (lpr-mouse) = 59 mg/Kg
Copper chloride LD₅₀ (oral-rat) = 140 mg/Kg
Sodium molybdate LD₅₀ (oral-rat) = 245 mg/Kg
Zinc chloride LD₅₀ (oral-rat) = 350 mg/Kg
Cobalt sulfate LD₅₀ (oral-rat) = 768 mg/Kg
Manganese chloride LD₅₀ (oral-mouse) = 1715 mg/Kg

SECTION VII SPECIAL PRECAUTIONS & SPILL/LEAK PROCEDURES

HANDLING AND STORAGE: Keep containers closed and dry. Wash hands thoroughly after using.

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Prevent material from entering sewers or waterways. Collect and contain for salvage or disposal. Absorb waste on inert media and dispose of as solid waste.

WASTE DISPOSAL METHODS:

Since emptied packages retain product residue follow label warnings even after package is emptied. Landfill in compliance with all federal, state and local laws concerning health and environment.

SECTION VIII - SPECIAL PROTECTION / CONTROL MEASURES**RESPIRATORY PROTECTION:****VENTILATION:**

LOCAL EXHAUST: Provide general or local exhaust ventilation.

SPECIAL VENTILATION: not applicable

PROTECTIVE GLOVES: Wear protective clothing impervious to this material.

EYE PROTECTION: Use chemical goggles. Use full-face respirator when there is any likelihood of splashes.

OTHER SPECIAL CLOTHING/EQUIPMENT: Eye wash fountain and washing facilities should be located in immediate work area.

WORK/HYGIENIC PRACTICES: wash thoroughly after handling. Do not smoke when handling chemicals.

SECTION IX ENVIRONMENTAL EFFECTS DATA**SECTION X TRANSPORTATION DATA**

PROPER SHIPPING NAME: FOLI-ZYME GA
NON HAZARDOUS MATERIAL
NON REGULATED MATERIAL

DOT HAZARD CLASS:

Copper chloride is a R.Q. when this product is shipped in bulk.