

## ESSENTIAL MINOR ELEMENTS MATERIAL SAFETY DATA SHEET

Manufacturer's Name & Address  
Southern Agricultural Insecticides, Inc.  
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### I NOMENCLATURE

Product Name: ESSENTIAL MINOR ELEMENTS  
Chemical Name: Mixture of magnesium, manganese, zinc, iron, boron, and molybdenum salts and elemental sulfur.  
Synonyms: NA  
Chemical Family: mixture of metallic salts and elemental sulfur

### II INGREDIENTS

	Nomiinal %	CAS#	OSHA PEL
Magnesium sulfate	47.0%	7487-88-9	TLV Not established
sulfur	8.3	.7704-34-9	TLV(total dust)10mg/m3 (respirable dust) 5 mg/m3
Ferrous sulfate heptahydrate	17.0%	7720-78-7	TLV (as Fe) 1 mg/m3
Copper sulfate pentahydrate	1%	.7758-98-7	TLV (as Cu) 1 mg/m3
Manganese sulfate	6.5%	.7785-87-7	TLV(C)(as Mn) 5 mg/m3
Zinc sulfate monohydrate	2.9%	7733-02-0	TLV Not est
Ferric sodium EDTA	0.8%	15708-41-5	(as Fe) 1 mg/m3
Disodium octaborate tetrahydrate	0.13%	12008-41-2.	
Sodium molybdate(disodium)	0.006%	7631-95-0	5 mg/m3.

### III PHYSICAL PROPERTIES (N/A=Not available NA=Not applicable)

Boiling Point: NA Specific Gravity: (water=1)approx.1.1  
Vapor Pressure: NA Percent Volatile: NA  
Vapor Density: NA Evaporation Rate: NA  
Solubility In Water: approx 60 grams/100ml Reactivity in Water: salts ionize  
Appearance/Odor: light yellow powder with some larger particles. Slight musty odor.

### IV FIRE AND EXPLOSION DATA

Flash Point: Sulfur 335oF Flammable Limits:(sulfur g/m3) Lel 35 Uel 1400  
Extinguishing Media: Ferrous oxalate in mixture will decompose at 160oC. Use water spray, CO2 or dry chemical. Excess water should be contained.  
Special Fire Fighting Procedures: Fight fire upwind and wear self contained breathing apparatus. Keep dust to a minimum. Sulfur dust dispersed in air has a low ignition temperature and can burn with explosive violence.  
Unusual Fire & Explosion Hazards: Toxic gasses will be emitted under fire conditions.

### V FIRST AID

First Aid for EYE Exposure: Flush eyes for 15 minutes with plenty of water, lifting upper and lower lids occasionally while flushing. Get medical attention.  
First Aid for SKIN Exposure: Remove contaminated clothing and wash all exposed skin surfaces thoroughly with soap and water. If irritation develops, see a physician.  
First Aid for INHALATION: Remove from exposure. If irritation develops, see a physician.  
First aid if SWALLOWED: If victim is conscious, give large amounts of milk or water. Induce vomiting by sticking finger down throat. Seek immediate medical attention.  
SYMPTOMS of OVEREXPOSURE: Eye irritation, respiratory difficulties, nausea and vomiting and dermal allergic response.

### VI REACTIVITY

Stability: Stable under normal storage conditions.  
Conditions to Avoid: Temperatures above 300oF. Strong oxidizing agents. Acids, particularly nitric acid, strong alkalies, moisture halogenated hydrocarbons and soluble carbonates.  
Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, metallic oxides, oxides of sulfur.

Hazardous Polymerization: Does not Occur.

#### VII SPILL OR LEAK PROTECTION

Steps To Be Taken If Spilled: Isolate spill. If possible, recover and use according to label instructions, otherwise shovel into a suitable waste container. keep dust to a minimum. Vacuum or wash impervious surfaces with soap and water.

Waste Disposal: Dig residue into soil if outdoors and spill is small, (less than 10 lbs) otherwise dispose of in accordance with local, State, and Federal regulations.

#### VIII SPECIAL PROTECTION

Respiratory: Type/Conditions: Where dust or spray mist exposure would occur and/or where TLV would be exceeded wear a NIOSH approved respirator with pesticide cartridge.

Ventilation: When application would be made in confined area local exhaust ventilation with mist collection .

Gloves: Impervious gloves if contact with material is repeated or prolonged.

Eye Protection: Safety glasses with side shields or goggles.

Other Protective Equipment: Freshly laundered, body covering work clothing. Do not wear contaminated clothing.

#### IX SPECIAL PRECAUTIONS

Handling Precautions: Avoid personal contact. Avoid breathing spray mist. Wash thoroughly after handling. Avoid container damage. Do not put leaking or damaged containers in storage.

Storing Precautions: Store in a dry cool well ventilated area away from feed and food. Avoid areas of extreme heat. Do not store near materials listed in section VI. KEEP OUT OF REACH OF CHILDREN.

Other Precautions: Do not contaminate waters by cleaning equipment or disposal of waste.

This information relates solely to the designated product and is not inclusive for combinations with other materials. This information is given without warranty or representation. Information is based on data we believe to be correct as of the date hereof. This information is furnished solely for your consideration, investigation, and verification. Before using any product READ THE LABEL.

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