

Material Safety Data Sheet

Revised -
May, 2005

ESPOMA SOIL ACIDIFIER - PART I

SECTION I GENERAL INFORMATION

The Espoma Company
6 Espoma Road 856-825-0542 (ph)
Millville, NJ 08332 856-825-1385 (fx)

Trade Name (Common Name or Synonym) - Sulphur Fertilizer
Formula: 90% Sulphur Molecular Weight: N/A
10% Bentonite Clay

SECTION II TRANSPORTATION REQUIREMENTS (Non Regulated as per following exemptions/provisions, and observations):

US and Canadian Shipments: non regulated as per T.D.G.A.R.'s exemption part 2.3 (a)(xxxviii) and 49 CFR (Canadian Shipments and Packagings 171.12 (a) and CFR 49 (Special Provisions 172.102 pt 30.)

International Shipments:

AIR (IATA): Exempted under Special Provision A 105 **SEA (IMDG):** Exempted as per Sulphur Observations Part 1 & 2

Appearance: Specifically formed product in the shape of pastilles.

TRANSPORTATION EMERGENCIES: call collect CANUTEC 613-996-6666 (24 hours).
WHMIS: non-controlled product in accordance with sub-paragraph 13(a)(i-iv) or paragraph 14 (a) of the Hazardous Products Act.

SECTION III FIRST AID MEASURES

Skin: Wash with mild soap and water.
Eyes: Irrigate thoroughly with copious quantities of plain water.
Inadequate irrigation may increase the irritation. Do not use Boric Acid.

SECTION IV HAZARDS INFORMATION

Inhalation: Sulphur dust may irritate the mucous membranes of the respiratory passages.

Ingestion: Solid sulphur is virtually non-toxic. It can be taken internally in fairly large doses without injury.

Skin: In some individuals, sulphur dust has an irritant action, which may be aggravated by perspiration or moisture.

Eyes: Sulphur dust is capable of irritating the inner surfaces of the eyelids.

Permissible Concentration: None established. **Unusual Chronic Toxicity:** N/A

Flash Point °C	Auto Ignition °C	Flammable Limits in Air (% by VOL)
Pure Liquid S, 188 °C, (370 °F)	Dust clouds 190 °C, (374 °F)	Minimum explosion concentration is approximately 35 gm per cu. metre (0.035 oz per cu ft.). Maximum ex- plosive concentration lies between 1000-2000 (probably about 1400 gm/m ³ (1.4 oz per cu. ft.).
Impure Liquid S, 168 °C, (335 °F)	Undispersed dust, 220 °C, (428 °F)	

*Unusual Fire and Explosion Hazards:

Dust suspended in air is readily ignited by flame, static electricity of friction spark. Every reasonable step must be taken to minimize dust formation. Dust tight casings should be equipped with explosion relief vents. Sparkless electrical equipment is recommended. Handling equipment must be grounded or bonded to avoid static electricity. Keep away from sources of flame or sparks. Detailed recommendations in Manufacturing Chemists Association SD-74 and National Safety Council 612 Bulletins covering "Sulphur" should be followed when handling Tiger 90.

Explosive Limits: LEL 35 gm/m³
UEL 1400 gm/m³

SECTION V PRECAUTIONS/PROCEDURES

* Fire Extinguishing Agents Recommended:

1. A fine water spray or fog is recommended.
2. CO₂ or dry chemical.
3. Small fires may be smothered with sand or solid sulphur.

* Fire Extinguishing Agents to Avoid:

Hoses and extinguishers with pressure streams should be avoided where solid sulphur is dusty or where it may create a further hazard by raising more dust clouds.

* Special Fire Fighting Precautions:

Because burning sulphur evolves sulphur dioxide, breathing apparatus or gas masks approved for use in acid-gas atmosphere should be used. Fumes from unprotected sulphur fires shall be avoided, if possible, by approaching from the upwind side.

* Ventilation:

Local exhaust if dusty conditions prevail.

* Normal Handling:

Avoid breathing dust and keep clothing as free from dust as possible.

* Storage:

Solid becomes corrosive to metals when stored wet. Sulphur/bentonite fertilizer will physically break down when exposed to moisture or water.

* Spill or Leak:

Shovel into disposal containers or cover with tarp. For landfill disposal, mix with limestone 3 times the weight of sulphur.

* Special: Precautions/Procedures/Label Instructions.

Eye wash equipment near the work area.

SECTION VI PERSONAL PROTECTIVE EQUIPMENT

* Respiratory Protection:

Dust-type respirators shall be provided for dusty conditions. Breathing apparatus must be available for emergency use in case of fire.

* Eyes and Face:

Dust-tight goggles with plastic or rubber frames may be helpful in dusty conditions.

* Hands, Arms and Body:

Workers whose skin may be sensitive to sulphur dust should button collars, roll sleeves down, and gather trousers at the ankle. Gloves may be helpful.

* Other Clothing and Equipment:

Hard hat and safety shoes. Fire-retardant fabric is recommended. Sulphur impregnated clothing should not be worn.

SECTION VII PHYSICAL DATA

Material is (at normal conditions): Appearance and Odour
__Liquid__ Solid __Gas
Pale copper in Colour. May have slight sulphur odour. Pellet or pastille in shape.

Boiling Point 444 °C (832 °F)	Specific Gravity Solid, 2.07 gm/ml	Vapour Density >1
Solubility in water (% by weight) Insoluble	pH Neutral when dry	Vapour Pressure (mmHG at 20 °C) Solid: Less than 0.0001 mm. Hg at 20 °C (68 °F).
Evaporation Rate (Butyl Acetate =) (Ether=) N/A	% Volatiles by Volume N/A	Melting Point 119 °C (246 °F)

All information is offered in good faith without guarantee or obligation for the accuracy or sufficiency thereof or the results obtained and is accepted at user's risk. The uses referred to are for the purpose of illustration only user should investigate and establish the suitability of such use(s) in every case. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending license under valid patents.

SECTION VIII**REACTIVITY DATA****Stability** Unstable Stable**Conditions to Avoid**

The main hazards are fire and dust explosions

Hazardous Polymerization Conditions to Avoid. May occur Will not occur.**SECTION IX****HAZARDOUS INGREDIENTS (Mixtures Only)***** Material or Components:**

Mixtures with chlorates, nitrates or other oxidizing agents may be explosive.
Sulphur will react with alkaliss or alkaline earths.

NOTICE:

The data and information presented herein are based upon tests, research and reports which are considered by us to be reliable and believed to be accurate. The data and information are presented without warranty, guarantee or liability on our part, and are presented to the customer for his own consideration, investigation and verification.

MATERIAL SAFETY DATA SHEET

ESPOMA SOIL ACIDIFIER - PART II

Emergency Number - 800-634-0603

The Espoma Company
6 Espoma Road
Millville, NJ 08332

SECTION I

PRODUCT: Gypsum Rock and Uncalcined Ground Gypsum Products

Agricultural and Road Bed Gypsum Fines
Agricultural Gypsum
Agricultural Gypsum Coarse
Ben Franklin* No. 1 Agricultural Gypsum
Agricultural Gypsum Granular
Aqua Cal
BEN FRANKLIN* Agricultural Gypsum
HYPONEX* Lawn and Garden Gypsum
BEN FRANKLIN* No. 420 Landplaster
SOF N-SOIL* Gypsum
Calcium Sulfate Feed Grade
US Army No. 1 Ground
Calcium Sulfate Feed Grade Coarse
USG* 500 Land Plaster
Glass Batch Gypsum
KB Filler
Industrial Ground Gypsum
Industrial Ground Gypsum Coarse
Industrial Ground Gypsum-White

Crushed Gypsum Rock: No. 1, No. 2, No. 2A, No. 3, No. 4,
No. 5, No. 30, No. 125A Anhydrite, No. 225GA, No. 240GA,
No. 250GA, No. 260, No. 260GA, No. 350GA, No. 1 Dried Rock

* - Trademark of United States Gypsum Company or an affiliated company

CHEMICAL FAMILY: Calcium Sulfate Dihydrate

SECTION II
INGREDIENTS

MATERIAL	%	TLV mg/m3	PEL mg/m3	CAS NO.
Calcium Sulfate	80-100	10	15/5(R)	10101-41-4
Calcium Carbonate	0-20	10	15/5(R)	1317-65-3er Federal, State,

SECTION III
PHYSICAL DATA

MELTING POINT: 1450 C - decomposes
 SPECIFIC GRAVITY: 2.32 - 2.96
 SOLUBILITY IN WATER: 0.2%
 APPEARANCE AND ODOR: Off-white to white powder or lump rock; low odor.
 PRODUCT: Gypsum Rock and Uncalcined Ground Gypsum Products

SECTION IV
FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (METHOD USED): None
 EXTINGUISHING MEDIA: Not combustible
 SPECIAL FIRE FIGHTING PROCEDURES: None
 UNUSUAL FIRE AND EXPLOSION HAZARDS: None

SECTION V
HEALTH HAZARD DATA

EFFECTS OF OVEREXPOSURE:

ACUTE:

EYES: Particles may cause irritation.

SKIN: This material is not toxic. No toxic effects from powdered gypsum are noticed where air contains contaminate to excess. May dry skin.

INHALATION: Persons subjected to large amounts of this dust will be forced to leave area because of nuisance conditions such as coughing, sneezing and nasal irritation from dust.

INGESTION: None known.

CHRONIC: None known.

EMERGENCY AND FIRST AID PROCEDURES:

EYES: Flush with water to remove particles. If irritation continues, see a Physician.

SKIN: Wash with water.

INHALATION: Remove to fresh air.

INGESTION: None Known.

TARGET ORGANS: Lungs.

MEDICAL CONDITIONS WHICH MAY BE AGGRAVATED: Pre-existing upper respiratory and lung disease such as, but not limited to, bronchitis, emphysema and asthma.

PRIMARY ROUTE OF ENTRY: Inhalation.

CARCINOGENICITY OF INGREDIENTS:

MATERIAL	IARC	NTP	OSHA
All	Not listed	Not Listed	Not Listed

SECTION VI
REACTIVITY DATA

STABILITY: Stable
INCOMPATIBILITY: Acids
HAZARDOUS DECOMPOSITION PRODUCTS: Above 1450 C - SO₂ & CaO
HAZARDOUS POLYMERIZATION: Will not occur

PRODOUCT: Gypsum Rock and Uncalcined Ground Gypsum Products

SECTION VII
SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Sweep or vacuum material from spillage into a waste container for disposal. Avoid dusting conditions.

WASTE DISPOSAL METHOD: This material can be disposed of as inert solid in a landfill or by other procedures which are accepted under federal, state and local regulations.

SECTION VIII
SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: Provide general ventilation and local exhaust ventilation to meet TLV requirements. When dusty condition exists, wear an approved dust mask to guard against nuisance particles.

PROTECTIVE EQUIPMENT: Gloves or protective clothing are usually not necessary but may be desirable in specific work situations. Eye protection (goggles) may be needed to avoid particulate irritation of the eye.

SECTION IX
SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Be sure proper ventilation and respiratory and eye protection are used under dusting conditions.

LABEL LANGUAGE:

INGREDIENTS: Contains calcium sulfite (CAS # 10101-41-4).

CAUTION: While handling, wear a NIOSH approved dust mask. The use of safety glasses is recommended.

PRODUCT SAFETY INFORMATION: 312-606-4542

KEEP OUT OF REACH OF CHILDREN.