SEE ATTACHED MATERIAL SAFETY DATA SHEET

MATERIAL SAFETY DATA SHEET

Although the information herein is believed to be true and accurate, we EXPRESSLY DISCLAIM any liability whatsoever for its use and such information is made WITHOUT WARRANTY, EXPRESS OR IMPLIED, OF ANY KIND WHATSOEVER.

SECTION I

MANUFACTURER'S NAME BANDINI FERTILIZER COMPANY	EMERGENCY TELEPHONE NO CHEMTREC (800) 424-9300 MANUFACTURER (213) 263-7391
ADDRESS (Number, Street, City, State and Zip Code) 4139 BANDINI BLVD., LOS ANGELES, CA 90023	

CHEMICAL NAME AND SYNONYMS SEE SECTION II	TRADE NAME AND SYNONYMS BANDINI GRANULAR SOIL SULFUR	
CHEMICAL FAMILY	CHEMICAL FORMULA N/A	
HAZARD CLASS NON-HAZARDOUS	IDENTIFICATION NO. NONE	PLACARD/LABEL REQUIRED NONE

SECTION II - HAZARDOUS INGREDIENTS

TYPICAL ANALYSIS

	WT. %	CAS #

SECTION III - PHYSICAL DATA

BOILING POINT (°F.) N/A	SPECIFIC GRAVITY (H_2O=1) N/A
VAPOR PRESSURE (mmHg.) N/A	PERCENT VOLATILE BY VOLUME (%) N/A
VAPOR DENSITY (AIR = 1) N/A	EVAPORATION RATE (_____=1) N/A
SOLUBILITY IN WATER	
APPEARANCE AND ODOR	

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (METHOD USED)	FLAMMABLE LIMITS
EXTINGUISHING MEDIA	
SPECIAL FIRE FIGHTING PROCEDURES	
UNUSUAL FIRE AND EXPLOSION HAZARDS	

UPDATED: 12/14/95

MATERIAL SAFETY DATA SHEET

DISPER-SUL (GRANULAR SOIL SULFUR)

Martin Resources, Inc.
P.O. Drawer 191
Kilgore, Texas 75662

EMERGENCY ASSISTANCE
MGS - 1-800-256-4421
CHEMTREC: (800) 424-9300

HAZARD RATING SYSTEM:

	NFPA 704	HMIS	KEY
HEALTH	1	1	4 = SEVERE
FLAMMABILITY	1	1	3 = SERIOUS
REACTIVITY	0	1	2 = MODERATE
			1 = SLIGHT
			0 = MINIMAL

A. PRODUCT IDENTIFICATION

Synonyms:	None
Chemical Name:	Sulfur blended with Bentonite clay
Chemical Family:	Natural products
Chemical Formula:	S
CAS Reg. No.:	7704-34-9 (sulfur), 1302-78-9 (clay)

Product and/or Components Entered on EPA's TSCA Inventory: YES

This product has been introduced into U.S. commerce, and is listed in the Toxic Substances Control Act (TSCA) Inventory of Chemicals in Commerce; hence, it is subject to all applicable provisions and restrictions under TSCA 40 CFR, Section 721 and 723.250.

B. HAZARDOUS COMPONENTS

Ingredients	CAS Number	% By Wt.	OSHA PEL	ACGIH TLV	Units
Sulfur	7704-34-9	90	N.E.	N.E.	N.A.
Crystalline silica*	14464-46-1	<0.7	0.1	0.1	mg/m^3

* present in trace quantities in clay
N.E. -Not Established
N.A. -Not Applicable

Powdered sulfur may be considered a nuisance dust by the ACGIH. As such workplace exposures should not exceed 10 mg/m^3.

C. PERSONAL PROTECTION INFORMATION

Ventilation:	Use adequate ventilation to control exposure below recommended exposure levels. Avoid inhalation of dust.
Respiratory Protection:	Not generally required. When entering areas containing unknown concentrations, use NIOSH/MSHA approved self-contained breathing apparatus (SCBA).
Eye Protection:	Dust-proof goggles or safety glasses with side shields. Contact lenses may absorb irritants. Particles may adhere to lenses and cause corneal damage. Do not wear contact lenses in work areas.

Skin Protection: Chemical-resistant gloves and clothing are recommended to avoid prolonged contact. Avoid unnecessary skin contact.

NOTE: Personal protection information shown in Section C is based upon general information as to normal uses and conditions. Where special or unusual uses or conditions exist, it is suggested that the expert assistance of an industrial hygienist or other qualified professional be sought.

D. HANDLING AND STORAGE PRECAUTIONS

Store in a cool, dry, well-ventilated area, away from incompatible chemicals. Keep away from fire, sparks, and flame. Material is corrosive to ferrous and mild steel materials. All handling and storage equipment should be constructed of stainless steel, aluminum, or poly-type materials. Keep containers closed and electrostatically grounded. Powdered sulfur is subject to dust cloud explosions. Engineering of storage facilities should incorporate maximum explosion-proof design.

E. REACTIVITY DATA

Stability:	Stable
Conditions to Avoid:	Heat greater than 212°F, Sparks, Flame, build up of Static Electricity
Incompatibility (Materials to Avoid):	Acids, Alkalies, Halogens, Oxygen and Strong Oxidizing agents. Forms explosive mixtures with oxidizing agents.
Hazardous Polymerization:	Will Not Occur
Hazardous Decomposition Products:	Sulfur Oxides, Hydrogen Sulfide

F. HEALTH HAZARD DATA

1. Recommended Exposure Limits: See Section B

2. Acute Effects of Overexposure:

Eye: Exposure to dust can cause eye irritation, characterized by burning, lacrimation, blurred vision, keratitis, and losses of corneal epithelium.

Skin: Exposure to dust can cause skin irritation. Symptoms include reddening, itching, and inflammation.

Inhalation: Sulfur dust is irritating to mucous membranes of respiratory tract. May cause coughing, sore throat, and shortness of breath.

Ingestion: Large doses can cause gastrointestinal irritation, nausea, vomiting, and diarrhea. Ingestion of greater than 15 grams may cause production of hydrogen sulfide from bacterial action in colon. Hydrogen sulfide thus produced can cause effects on central nervous system, including convulsions, changes in blood pressure and respiration, respiratory arrest, and possibly death.

3. Subchronic and Chronic Effects of Overexposure:

Skin sensitization has been observed in some people after repeated exposures to sulfur dust. Chronic inhalation may cause bronchopulmonary disease which may be complicated by emphysema and bronchiectasis. No evidence for carcinogenicity of sulfur according to NTP, IARC, NIOSH, OSHA, or ACGIH. IARC has determined that there is "limited" evidence that crystalline silica is a carcinogen.

H. FIRE AND EXPLOSION DATA

Flash Point (Method Used):	370°F (COC)
Autoignition Temperature:	491°F
Flammable Limits (% by Volume in Air):	LEL - not applicable UEL - not applicable
Fire Extinguishing Media:	Dry Chemical, Foam, Carbon Dioxide (CO_2), and Water (Fog or Spray Pattern)
Special Fire Fighting Procedures:	Cool down with water and smother with steam, foam, or dry chemical.

Generally low hazard. Molten liquid can burn if heated to temperatures in excess of flash point. In case of fire, evacuate all unnecessary personnel from area. Use NIOSH/MSHA approved self-contained breathing apparatus and other protective equipment and/or garments described in Section C if conditions warrant. Isolate additional material from fire if possible. Water fog or spray may be used to extinguish fire because the material can be cooled below its flash point. Liquid sulfur in open containers may be extinguished with a fine spray of water. Use of high pressure hose streams must be avoided because of the risk of splattering or causing a steam explosion. Keep quantity of water used to a minimum. Fires in storage tanks can be extinguished by shutting off vents to exclude air. Allow tank contents to cool to below 310°F before opening again.

Fire and Explosion Hazards:

Do not mix water with hot sulfur. Molten sulfur can release hydrogen sulfide, a highly toxic gas.

I. SPILL, LEAK AND DISPOSAL PROCEDURES

Precautions required if material is released or spilled:

Evacuate area of all unnecessary personnel. Wear protective equipment and/or garments described in Section C, if conditions warrant. Keep all ignition sources from spill. Uncontaminated material may be reused. Keep any liquid from entering sewers, watercourses, or low-lying areas. Contain any spilled liquid with earth or sand. Allow material to solidify, then scrape up. Any spill or release that exceeds the reportable quantity must be reported to local, state, and federal emergency response agencies.

Waste Disposal: Proper land disposal.

J. DOT TRANSPORTATION

1) For Domestic Shipments:

Commodity Name:	Disper-Sul
Shipping Description:	Disper-Sul
Packaging References:	Exempt from requirements (49CFR172.102, Special Provision 30)

2) For International Shipments:

Commodity Name:	Disper-Sul
Label:	Flammable Solid
Shipping Description:	Sulfur, 4.1, UN1350, P.G. III
Packaging References:	49 CFR, Sections 172.504, 173.151, 173.240

4. Other Health Effects:

None of note.

5. Health Hazard Categories:

	Animal	Human		Animal	Human
Known Carcinogen	___	___	Toxic	___	___
Suspect Carcinogen*	X	___	Corrosive	___	___
Mutagen	___	___	Irritant	___	X
Tumorigen	___	___	Target Organ Toxin	___	X
Teratogen	___	___	Specify: eye, respiratory tract irritation		
Allergic Sensitizer	___	___			
Highly Toxic	___	___			

* limited evidence for crystalline silica

6. First Aid and Emergency procedures:

Eyes: Immediately flush eyes with large amounts of water for at least 15 minutes. Get medical attention.

Skin: Wash affected area with soap and water.

Inhalation: Remove the victim to fresh air. Administer artificial respiration if breathing has stopped. Keep victim at rest. Call for prompt medical attention.

Ingestion: Never give anything by mouth to anyone who is unconscious or convulsing. Give victim about 16 ounces of water. Induce vomiting if victim is responsive. This is most effective within 30 minutes of ingestion.

Have emergency eyewash station available in work area.

G. PHYSICAL DATA

Appearance:	Yellowish solid
Odor:	Odorless
Melting Point:	246°F
Boiling Point:	831°F at 1 atm
Vapor Pressure:	0.0001 mm Hg at 68°F
Vapor Density (Air = 1):	Not Available
Solubility in Water:	Insoluble
Specific Gravity (H_2O = 1):	2.1
Percent Volatile by Volume:	nearly zero
Evaporation Rate (Ethyl Ether = 1):	negligible
Viscosity:	Not Applicable

K. OTHER REGULATORY INFORMATION

Hazardous Substance/RQ - Not Applicable

L. PROTECTION REQUIRED FOR WORK ON CONTAMINATED EQUIPMENT

Contact immediate supervisor for specific instruction before work is initiated. Wear protective equipment and/or garments described in Section C if exposure conditions warrant.

M. HAZARD CLASSIFICATION

This product meets the following hazard definition(s) as defined by the Occupational Safety and Health Hazard Communication Standard (29 CFR Section 1910.1200):

___	Combustible Liquid	___	Flammable Aerosol	___	Oxidizer
___	Compressed Gas	___	Explosive	___	Pyrophoric
___	Flammable Gas	___	Health Hazard (Section F)	___	Unstable
___	Flammable Liquid	___	Organic Peroxide	___	Water Reactive
X	Flammable Solid				

___ Based on information presently available, this product does not meet any of the hazard definitions of 29 CFR Section 1910.1200.

N. ADDITIONAL COMMENTS

None.

O. LEGAL DISCLAIMER

While the information contained in this MSDS is believed to be reliable, no guarantee is made as to its accuracy or completeness. The conditions of use, handling, storage, and disposal, and the suitability of the product for particular uses are beyond our control. Consequently, all risks involving the use of the product are assumed by the user. We expressly disclaim all warranties of every kind and nature, express or implied, including the warranties of merchantability and fitness for a particular purpose.