Material Safety Data Sheet
May be used to comply with
OSHA's Hazard Communication Standard,
29 CFR 1910.1200. Standard must be consulted
for specific requirements.

U.S. Department of Labor
Occupational Safety and Health Administration
(Non-Mandatory Form)
Form Approved
OMB No. 1218-0072

IDENTITY (As Used on Label and List)

Bonide Soil Acidifier **ID. No. 058**

Date: January 23, 2009

Section I

Bonide Products, Inc.
6301 Sutliff Road
Oriskany, NY 13424

(800) 424-9300
(315) 736-8231

Section II - Hazardous Ingredients/Identity

Hazardous Components (Specific Chemical Identity: Common Name(s))	OSHA PEL	ACGIH TLV	Other Limits	% (Optional)
Sulfur CAS # 7704-34-9	N.E.	N.E.	N.A.	90
Crystalline silica* CAS # 14464-46-1	<0.7	0.1	mg/m^3	

*present in trace quantities in clay

HAZARDOUS 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

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

Section III- 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 convulsion. Give victim about 16 ounces of water. Induce vomiting if victim is responsive. This is most affective within 30 minutes of ingestion. Have emergency eyewash station available in work area.

Section IV - Fire and Explosion Data

FLASH POINT (Method Used): 370°F (COC) AUTOIGNITION TEMPERATURE: 491°F
FLAMMABLE TEMPERATURE (% 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 VII 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 avoid 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.

Section V – 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 VII, 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.

Section VI – 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.

Section VII – 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.

Section VIII - Physical/Chemical Data

APPEARANCE: Yellowish solid
ODOR: Odorless
MELTING POINT: 246°F
BOILING POINT: 831°F at 1 ATM
VAPOR PRESSURE: 0.0001 mm 11g at 68°F
SOLUBILITY IN WATER: Not Applicable
VAPOR DENSITY (Air = 1): Insoluble.
SPECIFIC GRAVITY (H_2O = 1)
PERCENT VOLATILE BY VOLUME: Nearly Zero
VISCOSITY: Not Applicable
EVAPORATION RATE (Ethyl Ether = 1): Negligible
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.

Section IX - Reactivity Data

STABILITY: Stable. CONDITIONS TO AVOID: Heat greater than 212°F, Sparks, Flame, and build up to static Electricity. INCOMPATIBILITIES (Materials to Avoid): Acids, Alkalies, Halogens, Oxygen and Strong Oxidizing agents. Forms explosive mixtures with oxidizing agents. DECOMPOSITION: Thermal decomposition may release toxic fumes of zinc. Possibly oxides of sulfur. HAZARDOUS POLYMERIZATION: Will not occur. HAZARDOUS DECOMPOSITION PRODUCTS: Sulfur Oxides, Hydrogen Sulfide.

Section X- Health Hazard Data

RECOMMENDED EXPOSURE LIMITS: See Section II
ACUTE EFFECTS OF OVEREXPOSURE:
EYE: Exposure to dust can cause eye irritation, characterized by burning, Incrimination, 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 irritation 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.
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, LARC, NIOSH, OSHA, or ACGIH. LARC has determined that there is "limited" evidence that crystalline silica is a carcinogen.

Section X- Health Hazard Data (con't)

OTHER HEALTH EFFECTS: None of note.

HEALTH HAZARD CATEGORIES:

SUSPECT CARCINOGEN *: Animal IRRITANT: Human TARGET ORGAN TOXIN: Human
*Limited evidence for crystalline silica
SPECIFY: Eye, respiratory tract irritation

Section XI – 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: Exempt from requirements (49CFR172.102, Special Provision 30)

Hazardous Substance/RQ – Not Applicable

Section XII – 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 VII if exposure conditions warrant.

Section XIII – Hazard Classification

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

KEEP OUT OF REACH OF CHILDREN

ABBREVIATION KEY

N/A: NOT AVAILABLE OR APPLICABLE	N/E: NOT ESTABLISHED
TLV: THRESHOLD LIMIT VALUE	TWA: TIME WEIGHTED AVG./8 HOUR WORKDAY
STEL: SHORT TERM EXPOSURE LIMIT	D.O.T.: DEPARTMENT OF TRANSPORTATION

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