MATERIAL SAFETY DATA SHEET

MSDS NO. 10617 **Trade Name:** BARITE **Revision Date:** 09/02/2004

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Trade Name: BARITE
Chemical Family: Mixture
Product Use: Oil well drilling fluid additive.
Emergency Telephone (24 hr.): 281-561-1600

Supplied by: M-I L.L.C.
P.O. Box 42842
Houston, TX 77242
www.miswaco.com
Telephone Number: 281-561-1511
Contact Person: Catherine Miller, Product Safety Specialist

Revision Number: 3

HMIS Rating
Health: 1* **Flammability:** 0 **Physical Hazard:** 0 **PPE:** E

HMIS Key: 4=Severe, 3=Serious, 2=Moderate, 1=Slight, 0=Minimal Hazard. *Chronic effects - See Section 11. See Section 8 for Personal Protective Equipment recommendations.

2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	CAS No.	Wt. %	Comments:
Barite	7727-43-7	91 - 93	No comments.
Silica, crystalline, quartz	14808-60-7	1 - 11	No comments.
Mica	12001-26-2	1 - 5	No comments.

3. HAZARDS IDENTIFICATION

Emergency Overview: Caution! May cause eye, skin, and respiratory tract irritation. Long term inhalation of particulates may cause lung damage. Cancer hazard. Contains crystalline silica which may cause cancer.

Canadian Classification:
UN PIN No: Not regulated **WHMIS Class:** D2A

Physical State: Powder **Odor:** Odorless **Color:** Tan to grey

Potential Health Effects:

Acute Effects

Eye Contact: May cause mechanical irritation
Skin Contact: May cause mechanical irritation.
Inhalation: May cause mechanical irritation.
Ingestion: May cause gastric distress, nausea and vomiting if ingested.

Carcinogenicity & Chronic Effects: See Section 11 - Toxicological Information.

Routes of Exposure: Eyes. Dermal (skin) contact. Inhalation.
Target Organs/Medical Conditions Aggravated by Overexposure: Eyes. Skin. Respiratory System.

4. FIRST AID MEASURES

Eye Contact: Promptly wash eyes with lots of water while lifting eye lids. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

Skin Contact: Wash skin thoroughly with soap and water. Remove contaminated clothing and launder before reuse. Get medical attention if any discomfort continues.

Inhalation: Move person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion: Dilute with 2 - 3 glasses of water or milk, if conscious. Never give anything by mouth to an unconscious person. If signs of irritation or toxicity occur seek medical attention.

General Notes: Persons seeking medical attention should carry a copy of this MSDS with them.

5. FIRE FIGHTING MEASURES

Flammable Properties

Flash Point: F (C): NA
Flammable Limits in Air - Lower (%): ND
Flammable Limits in Air - Upper (%): ND
Autoignition Temperature: F(C) ND
Flammability Class: NA
Other Flammable Properties: ND
Extinguishing Media: This material is not combustible. Use extinguishing media appropriate for surrounding fire.

Protection Of Fire-Fighters:

Special Fire-Fighting Procedures: Do not enter fire area without proper personal protective equipment, including NIOSH/MSHA approved self-contained breathing apparatus. Evacuate area and fight fire from a safe distance. Water spray may be used to keep fire-exposed containers cool. Keep water run off out of sewers and waterways.

Hazardous Combustion Products: Not determined.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Use personal protective equipment identified in Section 8.

Spill Procedures: Evacuate surrounding area, if necessary. Contain spilled material. Avoid the generation of dust. Sweep, vacuum, or shovel and place into closable container for disposal.

Environmental Precautions: Do not allow to enter sewer or surface and subsurface waters. Waste must be disposed of in accordance with federal, state and local laws.

7. HANDLING AND STORAGE

Handling: Put on appropriate personal protective equipment. Avoid contact with skin and eyes. Avoid generating or breathing dust. Use only in a well ventilated area. Wash thoroughly after handling.

Storage: Store in dry, well-ventilated area. Keep container closed. Store away from incompatibles. Follow safe warehousing practices regarding palletizing, banding, shrink-wrapping and/or stacking.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits (TLV & PEL - 8H TWA):

Ingredient	CAS No.	Wt. %	ACGIH TLV	OSHA PEL	Other	Notes
Barite	7727-43-7	91 - 93	10 mg/m^3	15 mg/m^3 (total); 5 mg/m^3 (resp)	NA	None
Silica, crystalline, quartz	14808-60-7	1 - 11	0.05 mg/m^3	see Table Z-3	NIOSH: 0.05 mg/m^3 TWA (10H day/40H wk)	(R)
Mica	12001-26-2	1 - 5	3 mg/m^3	see Table Z-3	NA	None

Notes
(R) Respirable fraction (ACGIH);
Table Z-3: PEL for Mineral Dusts containing crystalline silica are 10 mg/m^3 / (%SiO2+2) for quartz and 1/2 the calculated quartz value for cristobalite and tridymite.

Engineering Controls: Use appropriate engineering controls such as, exhaust ventilation and process enclosure, to ensure air contamination and keep workers exposure below the applicable limits.

Personal Protection Equipment

Eye/Face Protection: Dust resistant safety goggles.

Skin Protection: Wear appropriate clothing to prevent repeated or prolonged skin contact. Chemical resistant gloves recommended for prolonged or repeated contact. Use protective gloves made of: Neoprene. Nitrile.

Respiratory Protection: Use at least a NIOSH-approved N95 half-mask disposable or reuseable particulate respirator (dusk mask).
In work environments containing oil mist/aerosol, use at least NIOSH-approved P95 half-mask disposable or reuseable particulate respirator.
For exposure exceeding 10 x PEL use a NIOSH-approved N100 Particulate Respirator.

General Hygiene Considerations: Work clothes should be washed separately at the end of each work day. Disposable clothing should be discarded, if contaminated with product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Color: Tan to grey
Odor: Odorless
Physical State: Powder
pH: ND
Specific Gravity (H2O = 1): 4.20 - 4.25 at 68F (20C)
Solubility (Water): Insoluble
Melting/Freezing Point: 2876F (1580C)
Boiling Point: ND
Vapor Pressure: ND
Vapor Density (Air=1): ND
Evaporation Rate: ND
Odor Threshold(s): ND

10. STABILITY AND REACTIVITY

Chemical Stability: Stable
Conditions to Avoid: Keep away from heat, sparks and flame.
Materials to Avoid: Not determined.
Hazardous Decomposition Products: None known
Hazardous Polymerization: Will not occur

11. TOXICOLOGICAL INFORMATION

Component Toxicological Data: Any adverse component toxicological effects are listed below. If no effects are listed, no such data were found.

Ingredient	Component Toxicological Summary
Silica, crystalline, quartz	Crystalline silica is the most widely occurring of all minerals. The most common form of silica is sand. The International Agency for Research on Cancer (IARC) has designated crystalline silica in the form of quartz or cristobalite a Group 1 (carcinogenic to humans). This designation was based on an increased risk of lung cancer among crystalline silica exposed workers. IARC did note that carcinogenicity of crystalline silica in humans was not detected in all industrial circumstances studied. Further, carcinogenicity of crystalline silica may be dependent on inherent characteristics of the crystalline silica or external factors affecting its biological activity or distribution of polymorphs. (IARC Vol. 68, 1997, p. 41). The National Toxicology Program (NTP) classifies crystalline silica as "reasonably anticipated to cause cancer in humans" (6th Annual Report on Carcinogens, 1991). Long term inhalation of crystalline silica can also result in the lung disease, silicosis. Symptoms of this disease include coughing and shortness of breath. (NJ HSFS, January 1996)
Mica	Studies of workers with long term exposure to mica dust indicated a higher incidence of pneumonconiosis ("dusty lung" disease). Symptoms of pneumoconiosis may include chronic cough, dyspnea (shortness of breath) and fatigue. (HSDB)

Product Toxicological Information:
Long term inhalation of particulate can cause irritation, inflammation and/or permanent injury to the lungs. Illnesses such as pneumoconiosis ("dusty lung"), pulmonary fibrosis, chronic bronchitis, emphysema and bronchial asthma may develop.

12. ECOLOGICAL INFORMATION

Product Ecotoxicity Data: Contact M-I Environmental Affairs Department for available product ecotoxicity data.

Biodegration: ND
Bioaccumulation: ND
Octanol/Water Partition Coefficient: ND

13. DISPOSAL CONSIDERATIONS

Waste Classification: ND

Waste Management: Under U.S. Environmental Protection Agency (EPA) Resource Conservation and Recovery Act (RCRA), it is the responsibility of the user to determine at the time of disposal, whether the product meets RCRA criteria for the hazardous waste. This is because product uses, transformations, mixtures, processes, etc., may render the resulting materials hazardous. Empty containers retain residues. All labeled precautions must be observed.

Disposal Method: Recover and reclaim or recycle, if practical. Should this product become a waste, dispose of in a permitted industrial landfill. Ensure that the containers are empty by the RCRA criteria prior to disposal in a permitted industrial landfill.

14. TRANSPORT INFORMATION

U.S. DOT Shipping Description: Not regulated for transportation by DOT, TDG, IMDG, ICAO/IATA.

Canada TDG Shipping Description: Not regulated.
UN PIN No: Not regulated

IMDG Shipping Description: Not regulated.

ICAO/IATA Shipping Description: Not regulated.

15. REGULATORY INFORMATION

U.S. Federal and State Regulations

SARA 311/312 Hazard Catagories: Delayed (chronic) health hazard.

SARA 302/304, 313; CERCLA RQ, California Proposition 65: Note: If no components are listed below, this product is not subject to the referenced SARA and CERCLA regulations and is not known to contain a Proposition 65 listed chemical at a level that is expected to pose a significant risk under anticipated use conditions.

Ingredient	SARA 302 / TPQs	SARA 313	CERCLA RQ	CA 65 Cancer	CA 65 Dev. Tox.	CA 65 Repro. F	CA 65 Repro. M
Silica, crystalline, quartz	---	---	---	X	---	---	---

International Chemical Inventories

Australia AICS - Components are listed or exempt from listing.
Canada DSL - Components are listed or exempt from listing.
China Inventory - Components are listed or exempt from listing.
European Union EINECS - Components are listed or exempt from listing.
Japan METI ENCS - Components are listed or exempt from listing.
Korea TCCL ECL - Components are listed or exempt from listing.
Philippine PICCS - Components are listed or exempt from listing.
U.S. TSCA - Components are listed or exempt from listing.
U.S. TSCA - No components are subject to TSCA 12(b) export notification requirements.

Canadian Classification:

Controlled Products Regulations Statement: This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

WHMIS Class: D2A

16. OTHER INFORMATION

The following sections have been revised: 1, 3, 5, 9, 10, 11, 12, 14, 15, 16

NA - Not Applicable, ND - Not Determined.

Disclaimer:

MSDS furnished independent of product sale. While every effort has been made to accurately describe this product, some of the data are obtained from sources beyond our direct supervision. We can not make any assertions as to its reliability or completeness; therefore, user may rely on it only at user´s risk. We have made no effort to censor or conceal deleterious aspects of this product. Since we cannot anticipate or control the conditions under which this information and product may be used, we make no guartantee that the precautions we have suggested will be adequate for all individuals and/or situations. It is the obligation of each user of this product to comply with the requirements of all applicable laws regarding use and disposal of this product. Additional information will be furnished upon request to assist the user; however, no warranty, either expressed or implied, nor liability of any nature with respect to this product or to the data herein is made or incurred hereunder.