

MATERIAL SAFETY DATA SHEET



MIL-BAR® 410

Drilling Fluids

1. Product and Company Identification

Material name MIL-BAR® 410
Version # 01
Revision date 10-03-2008
Chemical name Barite
Product use Weighting Agent
Supplier Baker Hughes Drilling Fluids
2001 Rankin Rd.
Houston, TX 77073
For Emergencies, call CHEMTREC 800-424-9300

2. Hazards Identification

Emergency overview Contact with this material can cause irritation to the skin, eyes and mucous membranes. Prolonged exposure may cause chronic effects.

Potential health effects

Eyes Dust or powder may irritate eye tissue. Eye contact may result in corneal injury.

Skin Health injuries are not known or expected under normal use. Prolonged or repeated contact can result in defatting and drying of the skin which may result in skin irritation and dermatitis (rash).

Inhalation Inhalation of dusts may cause respiratory irritation.

Ingestion Health injuries are not known or expected under normal use. Ingestion of large amounts may produce gastrointestinal disturbances including irritation, nausea, and diarrhea.

Target organs Eyes. Lungs. Respiratory system.

Chronic effects Chronic lung disease (silicosis) and/or lung cancer may result from prolonged/repeated breathing of the dust of this material. Shortness of breath. May cause delayed lung damage.

Signs and symptoms Cough. Discomfort in the chest. Shortness of breath. Chronic lung disease (silicosis) and/or lung cancer may result from prolonged/repeated breathing of the dust of this material. Conjunctivitis. Corneal damage.

Potential environmental effects This material is not expected to be harmful to aquatic life.

3. Composition / Information on Ingredients

Components	CAS #	Percent
CRYSTALLINE SILICA, QUARTZ	14808-60-7	4 - 6
MICA	12001-26-2	1 - 5
Non-hazardous and other components below reportable levels		80 - 90

4. First Aid Measures

First aid procedures

Eye contact Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation develops or persists.

Skin contact Wash off with soap and water. Get medical attention if irritation develops or persists.

Inhalation Remove to fresh air. If breathing is difficult, give oxygen. Call a physician if symptoms develop or persist.

Ingestion If swallowed, rinse mouth with water (only if the person is conscious). If ingestion of a large amount does occur, seek medical attention.

General advice Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Call a physician if symptoms develop or persist.

5. Fire Fighting Measures

Flammable properties Not a fire hazard.

Hazardous combustion products Combustion products include fumes, smoke, carbon monoxide, carbon dioxide and sulfur dioxide.

Extinguishing media

Suitable extinguishing media Use any media suitable for the surrounding fires.

Large Fires: Water spray, fog or regular foam.

Small Fires: Dry chemical, CO₂, water spray or regular foam.

Protection of firefighters

Protective equipment and precautions for firefighters Move containers from fire area if you can do it without risk. Use water spray to cool unopened containers. Firefighters should wear full protective clothing including self contained breathing apparatus.

6. Accidental Release Measures

Personal precautions Keep unnecessary personnel away. Surfaces may become slippery after spillage. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Environmental precautions Do not flush into surface water or sanitary sewer system.

Methods for containment Stop the flow of material, if this is without risk. Contain the discharged material.

Methods for cleaning up Vacuum or sweep up material and place in a disposal container. Avoid the generation of dusts during clean-up. Do not flush with water. Forms smooth, slippery surfaces on floors, posing an accident risk.

7. Handling and Storage

Handling Wear personal protective equipment. Minimize dust generation and accumulation. Do not breathe dust from this material. In case of insufficient ventilation, wear suitable respiratory equipment.

Storage Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Keep away from aluminum.

8. Exposure Controls / Personal Protection

Occupational exposure limits

ACGIH

Components	Type	Value	Form
CRYSTALLINE SILICA, QUARTZ (14808-60-7)	TWA	0.025 mg/m ³	Respirable fraction.

U.S. - OSHA

Components	Type	Value	Form
CRYSTALLINE SILICA, QUARTZ (14808-60-7)	TWA	0.1 mg/m ³	Respirable.
		2.4 mppcf	Respirable.
		0.3 mg/m ³	Total dust.
		0.1 mg/m ³	Respirable dust.

Engineering controls Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

Personal protective equipment

Eye / face protection Wear dust goggles.

Hand protection Rubber or plastic gloves.

Skin protection Use of protective coveralls and long sleeves is recommended. Use of impervious boots is recommended.

Respiratory protection When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Suitable mask with particle filter P3 (European Norm 143)

General hygiene considerations Wash hands before breaks and immediately after handling the product. Handle in accordance with good industrial hygiene and safety practice. Do not breathe dust.

9. Physical & Chemical Properties

Appearance / Color / Form Powder. Tan. Solid.

Odor None.

Form Solid.

pH 7 (2% aq. solution)

Melting point Not available.

Freezing point 2876 °F (1580 °C)

Boiling point Not available.

Flash point	Non-flammable
Evaporation rate	Not available.
Flammability	Not available.
Flammability limits in air, upper, % by volume	Not available.
Flammability limits in air, lower, % by volume	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Specific gravity	4.1 g/ml @ 20 deg C
Relative density	4100 kg/m ³
Solubility	Insoluble in water.
Solubility (water)	2.2 mg/L
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
VOC	0 % estimated
Bulk density	1714 - 2163 kg/m ³ @ 20 deg C
Percent volatile	0 % estimated

10. Chemical Stability & Reactivity Information

Chemical stability	Stable at normal conditions.
Conditions to avoid	Exposure to water vapor.
Incompatible materials	Fluoride. Powerful oxidizers.
Hazardous decomposition products	May include oxides of nitrogen. May include oxides of phosphorus.
Possibility of hazardous reactions	Will not occur.

11. Toxicological Information

Chronic effects	Chronic lung disease (silicosis) and/or lung cancer may result from prolonged/repeated breathing of the dust of this material.
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Carcinogenicity

IARC Monographs on Occupational Exposures to Chemical Agents: Overall evaluation

CRYSTALLINE SILICA, QUARTZ (14808-60-7) 1 Human carcinogen.

US ACGIH Threshold Limit Values: A2 carcinogen

CRYSTALLINE SILICA, QUARTZ (14808-60-7) Group A2 Suspected human carcinogen.

US NTP Report on Carcinogens: Known carcinogen

CRYSTALLINE SILICA, QUARTZ (14808-60-7) Known carcinogen.

12. Ecological Information

Ecotoxicity	This material is not expected to be harmful to aquatic life.
Persistence and degradability	The methods for determining the biological degradability are not applicable to inorganic substances.
Bioaccumulation / Accumulation	Not expected to bioaccumulate.
Mobility in environmental media	This material is insoluble in water and will sink in the marine environment.

13. Disposal Considerations

Disposal instructions	Can be landfilled, when in compliance with local regulations. Dispose in accordance with all applicable regulations. This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste.
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14. Transport Information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

15. Regulatory Information

US federal regulations All components are on the U.S. EPA TSCA Inventory List.

CERCLA/SARA Hazardous Substances - Not applicable.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

Section 302 extremely hazardous substance No

Section 311 hazardous chemical Yes

Food and Drug Administration (FDA) Indirect food additive

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of New and Existing Chemicals (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

State regulations WARNING: This product contains a chemical known to the State of California to cause cancer.

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

CRYSTALLINE SILICA, QUARTZ (14808-60-7) Listed.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

CRYSTALLINE SILICA, QUARTZ (14808-60-7) Listed: October 1, 1988 Carcinogenic.

US - Pennsylvania RTK - Hazardous Substances: Listed substance

CRYSTALLINE SILICA, QUARTZ (14808-60-7) Listed.

MICA (12001-26-2) Listed.

16. Other Information

HMIS® ratings Health: 1*
Flammability: 0
Physical hazard: 0
Personal protection: E

NFPA ratings Health: 1
Flammability: 0
Instability: 0

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

US preparer

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This data sheet contains changes from the previous version in section(s):

Physical & Chemical Properties: Solubility