

MATERIAL SAFETY DATA SHEET



MIL-BAR®

Drilling Fluids

1. Product and Company Identification

Material name MIL-BAR®
Applications WEIGHTING AGENT FOR DRILLING FLUIDS
Supplier Baker Hughes Drilling Fluids
2001 Rankin Rd.
Houston, TX 77073
Emergency telephone number 713-439-8900

2. 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		> 90

3. Hazards Identification

Emergency overview Harmful in contact with eyes. Prolonged exposure may cause chronic effects. No hazards resulting from the material as supplied. Contact with this material can cause irritation to the skin, eyes and mucous membranes.

OSHA regulatory status However exposure limits detailed in Section 8 should be observed.

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

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 skin with soap and water. Get medical attention if irritation develops or persists.

Inhalation Move 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.

Notes to physician Symptoms may be delayed.

General advice Call a physician if symptoms develop or persist. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. If you feel unwell, seek medical advice (show the label where possible).

5. Fire Fighting Measures

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.

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

Large Fires: Water spray, fog or regular foam.

6. Accidental Release Measures

Personal precautions

Surfaces may become slippery after spillage. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Evacuation procedures

Keep unnecessary personnel away. Stay upwind.

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. 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 Aluminium.

8. Exposure Controls / Personal Protection

Exposure limits

ACGIH

Components

CAS

TWA

STEL

Ceiling

CRYSTALLINE SILICA,
QUARTZ

14808-60-7

0.05 mg/m³

MICA

12001-26-2

3 mg/m³

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

Do not breathe dust. Wash hands before breaks and immediately after handling the product.

9. Physical and Chemical Properties

Appearance / Color / Form

Powder. Tan. Solid.

Odor

None.

Clarity

Not available

Odor threshold

Not available

Physical state

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 limits in air, lower, % by volume

Not available

Flammability limits in air, upper, % by volume	Not available
Vapor pressure	Not available
Vapor density	Not available
Specific gravity	4.2 - 4.25 g/ml @ 20 deg C
Relative density	4200 - 4250 kg/m3
Solubility	Insoluble in water.
Octanol/H2O coeff	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
Bulk density	1714 - 2163 kg/m3 @ 20 deg C

10. Chemical Stability and Reativity Information

Chemical stability	Stable at normal conditions.
Conditions to avoid	Exposure to water vapor.
Possibility of hazardous reactions	Will not occur.

11. Toxicological Information

Component analysis - LD50

Toxicology Data - Selected LD50s and LC50s

CRYSTALLINE SILICA, QUARTZ	14808-60-7	Oral LD50 Rat: 500 mg/kg
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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

ACGIH - Threshold Limits Values - Carcinogens

CRYSTALLINE SILICA, QUARTZ	14808-60-7	A2 - Suspected Human Carcinogen
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NTP (National Toxicology Program) - Report on Carcinogens - Known Carcinogens

CRYSTALLINE SILICA, QUARTZ	14808-60-7	Known Carcinogen
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12. Ecological Information

Ecotoxicity	This material is not expected to be harmful to aquatic life.
Persistence / 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. 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

Department of Transportation (DOT) Requirements

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.

NTP (National Toxicology Program) - Report on Carcinogens - Known Carcinogens

CRYSTALLINE SILICA, 14808-60-7 Known Carcinogen
QUARTZ

Occupational Safety and Health Administration (OSHA)

29 CFR 1910.1200 hazardous chemical No

Superfund Amendments and Reauthorization Act of 1986 (SARA)

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

Section 302 extremely hazardous substance No

Section 311 hazardous chemical Yes

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 (CCS)	Yes
Europe	European Inventory of New and Existing Chemicals (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Japanese Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Korean Inventory of Chemicals (KICS)	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)

International regulations The product does not need to be labelled in accordance with EC directives or respective national laws.

IARC - Group 1 (Carcinogenic to Humans)

CRYSTALLINE SILICA, 14808-60-7 Monograph 68, 1997 (listed under Crystalline silica, inhaled in the form of quartz or cristobalite from occupational sources)
QUARTZ

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

California - Proposition 65 - Carcinogens List

CRYSTALLINE SILICA, 14808-60-7 carcinogen, initial date 10/1/88 (airborne particles of respirable size)
QUARTZ

Massachusetts - Right To Know List

CRYSTALLINE SILICA, 14808-60-7 Carcinogen; Extraordinarily hazardous
QUARTZ

New Jersey - Right to Know Hazardous Substance List

CRYSTALLINE SILICA, 14808-60-7 sn 1660
QUARTZ

Pennsylvania - RTK (Right to Know) List

CRYSTALLINE SILICA, 14808-60-7 Present
QUARTZ

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.

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