



MATERIAL SAFETY DATA SHEET

Trade Name: MAX GEL MSDS NO. 10618

Revision Date: 12/17/2001

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Trade Name: MAX GEL

Synonyms: Bentonite HMIS Rating

Chemical Family: Naturally occurring mineral Health: *1

Product Use: Oil well drilling fluid additive. Flammability: 1

UN/NA PIN No: Not Regulated Reactivity: 0

WHMIS Class: D2A PPE: J

Emergency Telephone (24 hr.): 281-561-1600

Supplied by a Business Unit of:

M-I L.L.C.

5950 North Course Drive

Houston, TX 77072

Phone: (281) 561-1509

Fax: (281) 561-7240

Contact Person: Sam Hoskin - Manager, Occupational Health

Revision Date: 12/17/2001

Revision Number: 1

MSDS Status: Approved

2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient/CAS Wt. %

Bentonite

1302-78-9

70 - 95

Silica, crystalline, quartz

14808-60-7

2 - 15

Silica, crystalline, Cristobalite

14464-46-1

2 - 12

Silica, crystalline, Tridymite

15468-32-3

1 - 5

Gypsum

13397-24-5

0 - 1

Ingredient Comments: No comments.

3. HAZARDS IDENTIFICATION

Emergency Overview: CAUTION! MAY CAUSE EYE, SKIN, AND RESIRATORY TRACT RRITATION.

Avoid contact with eyes, skin and clothing. Avoid breathing airborne product.

Keepcontainer closed. Use with adequate ventilation. Wash thoroughly after handling.

This product is a/an tan to gray powder. Slippery when wet. No significantimmediate hazards for emergency response personnel are known.



Potential Health Effects:

Acute Effects

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Eye Contact: May be irritating to the eyes.

Inhalation: May be irritating to the respiratory tract if inhaled.

Ingestion: May cause gastric distress, nausea and vomiting if ingested.

Skin Contact: May be irritating to the skin.

Chronic Effects

Sensitization: Not determined.

Carcinogenicity:

Cancer Comments: ATTENTION! CANCER HAZARD. CONTAINS CRYSTALLINE SILICA WHICH CAN

CAUSE CANCER. Risk of cancer depends on duration and level of exposure. IARC Monographs, Vol. 68, 1997, concludes that there is sufficient evidence that inhaled crystalline silica in the form of quartz or cristobalite from occupational sources causes cancer in humans. IARC Classification Group I.

Silica, crystalline, quartz 2 - 15 14808-60-7

IARC: Listed

OSHA: Listed

NTP: Listed

Silica, crystalline, Cristobalite 2 - 12 14464-46-1

IARC: Listed

OSHA: Listed

NTP: Listed

Silica, crystalline, Tridymite 1 - 5 15468-32-3

IARC: Listed

OSHA: Listed

NTP: Listed

Target Organ Effects: Respiratory System. Lungs. Skin. Eyes.

Signs and Symptoms: Particulates may cause mechanical irritation to the eyes, nose, throat and lungs.

Particulate inhalation may lead to pulmonary fibrosis, chronic bronchitis, emphysema and bronchial asthma. Dermatitis and asthma may result from short contact periods.

Medical Conditions Aggravated By Exposure:

Respiratory conditions.

Environmental Effects and Hazards:

Environmental effects have not been determined.

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.

Ingestion: Drink a couple of glasses of water or milk. Do not give victim anything to drink if he is unconscious. Get medical attention.

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Inhalation: Move person to fresh air. Move the exposed person to fresh air at once. Perform artificial respiration if breathing has stopped. Get medical attention.

Skin Contact: Wash skin thoroughly with soap and water. Remove contaminated clothing. Get medical attention if irritation persists.

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

Notes To Physician: None known.

5. FIRE FIGHTING MEASURES

Flammable Properties

Flash Point: °F Not Determined °C Not Determined

Flash Point Method: Not Determined

Flammable Limits in Air - Lower (%): Not Determined

Flammable Limits in Air - Upper (%): Not Determined

Autoignition Temperature: °F Not Determined °C Not Determined

Flammability Class: Not determined.

Other Flammable Properties: Not determined.

Extinguishing Media: This material is not combustible. Use extinguishing media appropriate for surrounding fire.

Protection Of Fire-Fighters:

Special Fire-Fighting Procedures: No specific fire fighting procedure given.

Hazardous Combustion Products: None relevant.

6. ACCIDENTAL RELEASE MEASURES

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

Spill Procedures: Avoid the generation of dust.

Sweep, vacuum, or shovel and place into closable container for disposal. Cover and move the containers. Flush the area with water. Repackage or replace if possible.

Environmental Precautions: Do not allow to enter sewer or surface and subsurface waters.

7. HANDLING AND STORAGE

Handling: Avoid handling causing generation of dust. Wear full protective clothing for prolonged exposure and/or high concentrations. Eye wash and emergency shower must be available at the work place. Wash hands often and change clothing when needed.

Provide good ventilation. Mechanical ventilation or local exhaust ventilation is required.

Storage: Store at room temperature in dry, well ventilated area. Keep in original container.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits

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Ingredient/CAS Wt. % ACGIH

TLV

TWA

ACGIH

TLV

STEL

ACGIH

TLV



Ceiling:

ACGIH

Skin

OSHA

PEL

TWA

OSHA

PELs

Ceiling:

OSHA

PELs

Skin

Notes

Bentonite

1302-78-9

70 - 95 Not

Listed

Not

Listed

Not

Listed

Not

Listed

Not

Listed

Not

Listed

Not

Listed

(1)

Silica, crystalline, quartz

14808-60-7

2 - 15 0.05

mg/m³

Not

Listed

Not

Listed

Not

Listed

see

Table Z-3

Not

Listed

Not

Listed

(R)

Silica, crystalline, Cristobalite



14464-46-1
2 - 12 0.05
mg/m³
Not
Listed
Not
Listed
Not
Listed
see
Table Z-3
Not
Listed
Not
Listed
(R)
Silica, crystalline, Tridymite
15468-32-3
1 - 5 0.05
mg/m³
Not
Listed
Not
Listed
Not
Listed
see
Table Z-3
Not
Listed
Not
Listed
(R)
Gypsum
13397-24-5
0 - 1 Not
Listed
Not
Listed
Not
Listed
Not
Listed
Not
Listed
Not
Listed
Not



Listed

None

Notes: (R) Respirable fraction (ACGIH); (1) Control as Particulates Not Otherwise Regulated (PNOR); PEL: 5 mg/m³ resp; TLV: 3 mg/3m resp; Table Z-3: PEL for Mineral Dusts containing crystalline silica are 10 mg/m³ / (%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: Wear dust resistant safety goggles where there is a danger of eye contact.

Skin Protection: Wear appropriate clothing to prevent repeat or prolonged skin contact. Chemical resistant gloves required for prolonged or repeated contact. Use protective gloves made of: Impermeable material such as, Neoprene, nitrile, polyethylene or PVC.

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

General Hygiene Considerations: Wash promptly with soap and water if skin becomes contaminated. Change work clothing daily if there is any possibility of contamination.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Powder Dust

Color: Gray to Tan

Odor: Odorless or no characteristic odor.

Physical State: Powder, dust

pH Value, Conc. Sol.: Not Determined

pH Value Diluted Sol.: Not determined.

Vapor Pressure: N/A

Vapor Density (Air=1): N/A

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Boiling Point (°F): Not determined.

Melting/Freezing Point: Not determined.

Solubility in Water Description: Not Determined

Solubility: Insoluble in water.

Density/Specific Gravity: 2.3-2.6

Bulk Density at 20°C: 67 lb/ft³; 1068 kg/m³

Evaporation Rate: Not Determined

Odor Threshold Lower: NA

Odor Threshold Upper: Unknown

10. STABILITY AND REACTIVITY

Chemical Stability: Normally Stable.

Conditions to Avoid: N/A

Materials to Avoid: None known

Hazardous Decomposition Products: No specific hazardous decomposition products noted.



Hazardous Polymerization: Will not occur

11. TOXICOLOGICAL INFORMATION

Toxicological Data

Ingredient/CAS Wt. % Route Species Dose Duration Effect Source

Bentonite

1302-78-9

70 - 95 N/D N/D N/D

Silica, crystalline, quartz

14808-60-7

2 - 15 N/D N/D N/D

Silica, crystalline, Cristobalite

14464-46-1

2 - 12 N/D N/D N/D

Silica, crystalline, Tridymite

15468-32-3

1 - 5 N/D N/D N/D

Gypsum

13397-24-5

0 - 1 N/D N/D N/D

Toxicological Information: No toxicological data is available for this product.

12. ECOLOGICAL INFORMATION

Ecotoxicological Data

Ingredient/CAS Wt. % Species Concentration Duration Source

Bentonite

1302-78-9

70 - 95 N/D N/D N/D

Silica, crystalline, quartz

14808-60-7

2 - 15 N/D N/D N/D

Silica, crystalline, Cristobalite

14464-46-1

2 - 12 N/D N/D N/D

Silica, crystalline, Tridymite

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1 - 5 N/D N/D N/D

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Gypsum

13397-24-5

0 - 1 N/D N/D N/D

Chemical Fate Data

Biodegradation: Not determined.

Bioaccumulation: Not determined

Octanol/Water Partition Coefficient: None Known

Ecological Information: No ecological information is available for this product.



13. DISPOSAL CONSIDERATIONS

Waste Classification: This product does not meet the criteria of a hazardous waste if discarded in its purchased form.

Waste Management: Under 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

Proper Shipping Name: Not Regulated

Hazard Class: None

Subsidiary Hazard: None

UN/NA Number: Not Regulated

DOT Packing Group: None

Packaging Authorizations: None

Product RQ: N/A

Emergency Response Guide No.: Not determined.

TDG (Canada):

Proper Shipping Name: Not Regulated

Hazard Class: Not regulated.

Subsidiary Hazard: None

UN/NA PIN No: Not Regulated

Packing Group: None

IMDG:

Proper Shipping Name: Not Regulated

Hazard Class: Not regulated.

Subsidiary Hazard: None

UN No.: Not Regulated

Packing Group: None

EMS No.: None

Marine Pollutant: None

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ICAO/IATA:

Proper Shipping Name: Not Regulated

Hazard Class: Not regulated.

Subsidiary Hazard: None

UN No.: Not Regulated

Packing Group: None

15. REGULATORY INFORMATION

US Federal Regulations



SARA 311/312:

SARA 311/312 Hazard Categories: Immediate (acute) health hazard;

Bentonite 70 - 95 1302-78-9

SARA 313 Not Listed

CERCLA Not Listed

SARA 302 / TPQs Not Listed

Silica, crystalline, quartz 2 - 15 14808-60-7

SARA 313 Not Listed

CERCLA Not Listed

SARA 302 / TPQs Not Listed

Silica, crystalline, Cristobalite 2 - 12 14464-46-1

SARA 313 Not Listed

CERCLA Not Listed

SARA 302 / TPQs Not Listed

Silica, crystalline, Tridymite 1 - 5 15468-32-3

SARA 313 Not Listed

CERCLA Not Listed

SARA 302 / TPQs Not Listed

Gypsum 0 - 1 13397-24-5

SARA 313 Not Listed

CERCLA Not Listed

SARA 302 / TPQs Not Listed

State Regulations

State Comments: Proposition 65: This product contains chemical(s) considered by the State of California's Safe Drinking Water and Toxic Enforcement Act of 1986 as causing cancer or reproductive toxicity, which warnings are now required and are marked as

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Bentonite 70 - 95 1302-78-9

California Prop. 65 Cancer list Not Listed

California Prop. 65 Developmental Toxicity Not Listed

California Prop. 65 Reproductive Female Not Listed

California Prop. 65 Reproductive Male Not Listed

Silica, crystalline, quartz 2 - 15 14808-60-7

California Prop. 65 Cancer list Listed

California Prop. 65 Developmental Toxicity Not Listed

California Prop. 65 Reproductive Female Not Listed

California Prop. 65 Reproductive Male Not Listed

Silica, crystalline, Cristobalite 2 - 12 14464-46-1

California Prop. 65 Cancer list Listed

California Prop. 65 Developmental Toxicity Not Listed

California Prop. 65 Reproductive Female Not Listed

California Prop. 65 Reproductive Male Not Listed

Silica, crystalline, Tridymite 1 - 5 15468-32-3

California Prop. 65 Cancer list Listed

California Prop. 65 Developmental Toxicity Not Listed



California Prop. 65 Reproductive Female Not Listed

California Prop. 65 Reproductive Male Not Listed

Gypsum 0 - 1 13397-24-5

California Prop. 65 Cancer list Not Listed

California Prop. 65 Developmental Toxicity Not Listed

California Prop. 65 Reproductive Female Not Listed

California Prop. 65 Reproductive Male Not Listed

International Inventories

TSCA - Sect. 8(b) Inventory This product complies with TSCA.

Canada - Domestic Substances Inventory This product complies with Canadian DSL.

Canada - Non-Domestic Substances Inventory This product does not comply with Canadian NDSL.

Canadian Regulations

Controlled Products Regulations Statement:

This Material Safety Data Sheet has been prepared in compliance with the Controlled Product Regulations.

WHMIS Class: D2A

16. OTHER INFORMATION

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Notes: N/D = Not Determined; N/A = Not Applicable

Information Sources:

OSHA Permissible Exposure Limits, 29 CFR 1910, Subpart Z, Sections 1910.1000, Air Contaminates. ACGIH Threshold

Limit Values and Biological Exposure Indices for Chemical Substances and Physical Agents (Latest edition). Sax's

Dangerous Properties of Industrial Materials, 9th ed., Lewis, R.J. Sr., (ed), VNR, New York, New York, (1997). IARC

Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Humans, Silica, Some Silicates, Coal Dust, and

para-Aramid Fibrils, Vol. 68, World Health Organization, Lyon, France, 1997.

The following has been revised since the last issue of this MSDS:

Nothing has been revised.

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 guarantee 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, neither 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.