



Safety Data Sheet M-I GEL†

1. Identification of the substance/preparation and of the Company/undertaking

1.1 Product identifier

Product name M-I GEL†

Product code 12412

1.2 Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Drilling fluid additive

Uses advised against Consumer use

1.3 Details of the supplier of the safety data sheet

Supplier

M-I L.L.C.
P.O.Box 42842
Houston, TX 77242
www.miswaco.slb.com

Prepared by

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1.4 Emergency Telephone Number

Emergency telephone (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 561 1600
Telephone Number - 281-561-1511

2. Hazards identification

2.1 Classification of the substance or mixture

GHS - Classification

Health hazards

Carcinogenicity	Category 1A
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Environmental hazards Not classified

Physical Hazards Not classified

2.2 Label elements



Signal word
DANGER

Hazard statements
H350 - May cause cancer

Precautionary statements
P201 - Obtain special instructions before use
P281 - Use personal protective equipment as required
P308 + P313 - IF exposed or concerned: Get medical advice/ attention

Supplementary precautionary statements
P202 - Do not handle until all safety precautions have been read and understood
P501 - Dispose of contents/ container to an approved waste disposal plant

3. Composition/information on Ingredients

3.1 Substances

Not Applicable

3.2 Mixtures

Component	CAS-No	Weight % - range
Silica, crystalline, Cristobalite	14464-46-1	10 - 30
Silica, crystalline, quartz	14808-60-7	10 - 30
Silica, crystalline, Tridymite	15468-32-3	1 - 5

4. First aid measures

4.1 Description of first-aid measures

Inhalation	Move to fresh air. If breathing is difficult, (trained personnel should) give oxygen. Get medical attention immediately if symptoms occur.
Ingestion	Drink 1 or 2 glasses of water. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.
Skin contact	Wash skin thoroughly with soap and water. Remove contaminated clothing and launder before reuse. Get medical attention if irritation persists.
Eye contact	Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

4.2 Most important symptoms and effects, both acute and delayed

Main symptoms

Inhalation	Please see Section 11. Toxicological Information for further information.
Ingestion	Please see Section 11. Toxicological Information for further information.
Skin contact	Please see Section 11. Toxicological Information for further information.
Eye contact	Please see Section 11. Toxicological Information for further information.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	Treat symptomatically
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5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water Fog, Alcohol Foam, CO₂, Dry Chemical.

Extinguishing media which shall not be used for safety reasons

None known.

5.2 Special hazards arising from the substance or mixture

Unusual fire and explosion hazards

None known.

Hazardous combustion products

Silicon oxide.

5.3 Advice for firefighters

Special protective equipment for fire-fighters

As in any fire, wear self-contained breathing apparatus and full protective gear.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear suitable protective equipment. Evacuate personnel to safe areas. Prevent further leakage or spillage if safe to do so. Avoid dust formation.

6.2 Environmental precautions

Do not allow material to contaminate ground water system.

Environmental exposure controls

No information available.

6.3 Methods and materials for containment and cleaning up

Methods for containment

Cover powder spill with plastic sheet or tarp to minimize spreading.

Methods for cleaning up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

6.4 Reference to other sections

No information available.

7. Handling and storage

7.1 Precautions for safe handling

Handling

Avoid breathing dust; if exposed to high dust concentration, leave area immediately. Avoid contact with skin, eyes and clothing.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures/precautions Ensure adequate ventilation.

Storage precautions Protect from moisture

8. Exposure controls/personal protection

8.1 Control parameters

Component Information

Component	ACGIH TLV	OSHA PEL
Silica, crystalline, Cristobalite	0.025 mg/m ³	see Table Z-3
Silica, crystalline, quartz	0.025 mg/m ³	see Table Z-3
Silica, crystalline, Tridymite	0.025 mg/m ³	see Table Z-3

Silica, crystalline, Cristobalite

OSHA - Final PELs - Table Z-3 Mineral Dusts

(1/2)(30)/(%SiO₂ + 2) mg/m³ TWA, total dust; (1/2)(250)/(%SiO₂ + 5) mppcf TWA, respirable fraction; (1/2)(10)/(%SiO₂ + 2) mg/m³ TWA, respirable fraction

Silica, crystalline, quartz

OSHA - Final PELs - Table Z-3 Mineral Dusts

(30)/(%SiO₂ + 2) mg/m³ TWA, total dust; (250)/(%SiO₂ + 5) mppcf TWA, respirable fraction; (10)/(%SiO₂ + 2) mg/m³ TWA, respirable fraction

Silica, crystalline, Tridymite

OSHA - Final PELs - Table Z-3 Mineral Dusts

(1/2)(30)/(%SiO₂ + 2) mg/m³ TWA, total dust; (1/2)(250)/(%SiO₂ + 5) mppcf TWA, respirable fraction; (1/2)(10)/(%SiO₂ + 2) mg/m³ TWA, respirable fraction

8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

Engineering measures to reduce exposure

Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Eye protection

Tightly fitting safety goggles.

Hand protection

Neoprene, Nitrile.

Respiratory protection

All respiratory protection equipment should be used within a comprehensive respiratory protection program that meets the requirements of 29 CFR 1910.134 (U.S. OSHA Respiratory Protection Standard) or local equivalent.

If exposed to airborne mist/aerosol of this product, use at least a NIOSH-approved N95 half-mask disposable or re-usable particulate respirator. In work environments containing oil mist/aerosol, use at least a NIOSH-approved P95 half-mask disposable or re-usable particulate respirator.

If exposed to vapors from this product use a NIOSH/MSHA-approved respirator with an Organic Vapor cartridge.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	Solid
Appearance	Opaque
Odor	Odorless
Color	Tan - Gray
Odor threshold	Not applicable

<u>Property</u>	<u>Values</u>	<u>Remarks</u>
pH	Not applicable	
pH @ dilution		
Melting/freezing point		
Boiling point/range	No information available	
Flash point	No information available	
Evaporation rate (BuAc =1)	No information available	
Flammability (solid, gas)	Not Applicable	
Flammability Limits in Air		
Upper flammability limit	No information available	
Lower flammability limit	No information available	
Vapor pressure	No information available	
Vapor density	No information available	
Specific gravity	2.3 - 2.6	
Bulk density	No information available	
Relative density	No information available	
Water solubility	slightly soluble	
Solubility in other solvents	Insoluble	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
Log Pow	Does not bioaccumulate	
Explosive properties	No information available	
Oxidizing properties	No information available	

9.2 Other information

Pour point	No information available
Molecular weight	No information available
VOC content(%)	No information available
Density	No information available

10. Stability and reactivity

10.1 Reactivity

No specific reactivity hazards associated with this product.

10.2 Chemical stability

Stable. Hazardous polymerization does not occur.

10.3 Possibility of Hazardous Reactions

Hazardous polymerization

Hazardous polymerization does not occur.

Hazardous Reactions

None known.

10.4 Conditions to avoid

None known.

10.5 Incompatible materials

Hydrofluoric acid (HF).

10.6 Hazardous decomposition products

Silicon oxide.

11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Inhalation	Inhalation of dust in high concentration may cause irritation of respiratory system. Repeated or prolonged inhalation of crystalline silica dust can cause delayed lung injury, and other diseases, including silicosis and lung cancer.
Eye contact	Dust contact with the eyes can lead to mechanical irritation.
Skin contact	Repeated exposure may cause skin dryness or cracking.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Acute toxicity	17.5% of the mixture consists of ingredient(s) of unknown toxicity.

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Silica, crystalline, Cristobalite	No data available	No data available	No data available
Silica, crystalline, quartz	= 500 mg/kg (Rat)	No data available	No data available
Silica, crystalline, Tridymite	No data available	No data available	No data available

Sensitization This product does not contain any components suspected to be sensitizing.

Mutagenic effects No evidence of mutagenic properties.

Carcinogenicity Contains a known or suspected carcinogen. Crystalline silica dust is listed by IARC in Group 1 as known to cause lung cancer in humans, if inhaled.

Reproductive toxicity	No evidence of toxicity to reproduction.
Developmental toxicity	Not known to cause birth defects or have a deleterious effect on a developing fetus.
Routes of exposure	Skin contact. Inhalation. Eye contact.
Routes of entry	Inhalation.
Specific target organ toxicity (single exposure)	Not classified
Specific target organ toxicity (repeated exposure)	Not classified.
Aspiration hazard	Not Applicable.

12. Ecological information

12.1 Toxicity

Toxicity to algae

See component information below.

Toxicity to fish

See component information below.

Toxicity to daphnia and other aquatic invertebrates

See component information below.

Component	Toxicity to fish	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates
Silica, crystalline, Cristobalite 14464-46-1 (10 - 30)	No information available	No information available	No information available
Silica, crystalline, quartz 14808-60-7 (10 - 30)	No information available	No information available	No information available
Silica, crystalline, Tridymite 15468-32-3 (1 - 5)	No information available	No information available	No information available

12.2 Persistence and degradability

No product level data available.

12.3 Bioaccumulative potential

No product level data available.

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

This preparation contains no substance considered to be persistent, bioaccumulating nor toxic (PBT)
This preparation contains no substance considered to be very persistent nor very bioaccumulating (vPvB)

12.6 Other adverse effects.

None known.

13. Disposal considerations

13.1 Waste treatment methods

Waste from residues / unused products Dispose of in accordance with local regulations.

Contaminated packaging Empty containers should be taken for local recycling, recovery or waste disposal.

14. Transport information

14.1 UN Number

UN/ID No. (ADR/RID/ADN/ADG)	Not regulated
UN No. (IMDG)	Not regulated
UN No. (ICAO)	Not regulated
UN No. (DOT)	Not regulated

14.2 Proper shipping name

Not regulated for transportation by DOT, TDG, IMDG and ICAO/IATA.

14.3 Hazard class(es)

ADR/RID/ADN Hazard class	Not regulated
IMDG Hazard class	Not regulated
ICAO Hazard class/division	Not regulated
DOT Hazard class	Not regulated

14.4 Packing group

ADR/RID/ADN Packing Group	Not regulated
IMDG Packing group	Not regulated
ICAO Packing group	Not regulated
DOT Packing group	Not regulated

14.5 Environmental hazard

No

14.6 Special precautions

Not Applicable

15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

International inventories

USA (TSCA)	Complies
European Union (EINECS and ELINCS)	Does not Comply
Canada (DSL)	Complies

Philippines (PICCS)	Does not Comply
Japan (ENCS)	Does not Comply
China (IECSC)	Does not Comply
Australia (AICS)	Does not Comply
Korean (KECL)	Does not Comply
New Zealand (NZIoC)	Complies

U.S. Federal and State Regulations

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

Component	SARA 302 / TPQs	SARA 313	CERCLA RQ
Silica, crystalline, Cristobalite	N/A	N/A	N/A
Silica, crystalline, quartz	N/A	N/A	N/A
Silica, crystalline, Tridymite	N/A	N/A	N/A

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 to cause cancer and/or reproductive toxicity. See table under U.S. Federal and State Regulations for the specific chemicals.

Silica, crystalline, quartz
carcinogen

This product has been classified in accordance with the hazard criteria of the CPR and the SDS contains all the information required by the CPR.

WHMIS Hazard Class D2A (Other Toxic Effects - Very Toxic Material)

16. Other information

Supersedes date	18/May/2012
Revision date	09/Oct/2014
Version	8
The following sections have been revised	All sections. Updated according to GHS/CLP.

HMIS classification

Health	1*
Flammability	0
Physical hazard	0
PPE	E

N/A - Not Applicable, N/D - Not Determined.

Disclaimer

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