SDS no. 10310
Version 5
Revision date 02/Feb/2016
Supersedes date 20/May/2015

Safety Data Sheet
MICA

1. Identification

1.1 Product identifier

Product name MICA

Product code 10310

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

Recommended Use Lost circulation material.

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
Telephone: 1 281-561-1511

M-I SWACO, A Schlumberger Company
200 - 125, 9th Avenue SE
Calgary, Alberta T2G 0P6, Canada
Telephone: 1-780-962-8221

Prepared by
Global Regulatory Compliance - Chemicals (GRC - Chemicals)

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

2. Hazards identification

2.1 Classification of the substance or mixture

GHS - Classification

Health hazards

Carcinogenicity	Category 1A

Environmental hazards Not classified

Physical Hazards

Combustible dust

2.2 Label elements

Signal word
DANGER

Hazard statements
H350 - May cause cancer
H232 - May form combustible dust concentrations in air

Precautionary statements
P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P240 - Ground/bond container and receiving equipment
P241 - Use explosion-proof electrical/ ventilating/ lighting/ equipment
P243 - Take precautionary measures against static discharge
P281 - Use personal protective equipment as required
P308 + P313 - IF exposed or concerned: Get medical advice/ attention
P501 - Dispose of contents/ container to an approved waste disposal plant

Unknown acute toxicity Not Applicable.

3. Composition/information on Ingredients

3.1 Substances

Not Applicable

3.2 Mixtures

Component	CAS-No	Weight % - range
Mica	12001-26-2	60 - 100
Silica, crystalline, quartz	14808-60-7	1 - 5

Comments
The exact percentage (concentration) of composition has been withheld as a trade secret

4. First aid measures

4.1 First-Aid Measures

Inhalation If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

Ingestion	Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur. Seek medical attention if irritation occurs.
Skin contact	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention immediately if symptoms occur.
Eye contact	Remove contact lenses. 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.

4.2 Most important symptoms and effects, both acute and delayed

General advice	The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

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

5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media
Water Fog, Alcohol Foam, CO_2, Dry Chemical.

Extinguishing media which shall not be used for safety reasons
Do not use a solid water stream as it may scatter and spread fire.

5.2 Special hazards arising from the substance or mixture

Unusual fire and explosion hazards
Combustible material. Suspended dust may present a dust explosion hazard.

Hazardous combustion products
Carbon oxides (COx), 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.

Special Fire-Fighting Procedures
Cool fire-exposed containers using water spray.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Evacuate personnel to safe areas. Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ensure adequate ventilation. Avoid breathing dust; if exposed to high dust concentration, leave area immediately. Suspended dust may present a dust explosion hazard. Contaminated surfaces will be extremely slippery. Slick when wet.

6.2 Environmental precautions

Do not allow material to contaminate ground water system.

Environmental exposure controls
Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

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
Material becomes slippery when wet. Use caution if wet. Take precautionary measures against static discharges. Do not dry sweep dust. Wet dust with water before sweeping or use a vacuum to collect dust. Sweep up and shovel into suitable containers for disposal. Use non-sparking tools and equipment. Avoid dust formation.

6.4 Reference to other sections

See section 13 for more information.

7. Handling and storage

7.1 Precautions for safe handling

Handling
Handle in accordance with good industrial hygiene and safety practice. Keep away from heat, sparks and open flame. No smoking. Avoid contact with skin, eyes and clothing. Avoid dust formation. Material becomes slippery when wet. Use caution if wet. Take precautionary measures against static discharges. Avoid breathing dust; if exposed to high dust concentration, leave area immediately. Fine dust dispersed in air may ignite.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures/precautions Ensure adequate ventilation. Keep airborne concentrations below exposure limits. Use spark-proof tools and explosion-proof equipment.

Storage precautions Follow safe warehousing practices regarding palletizing, banding, shrink-wrapping and/or stacking. Keep away from open flames, hot surfaces and sources of ignition. Avoid dust formation

8. Exposure controls/personal protection

8.1 Control parameters

Exposure limits **Control as an ACGIH particulate not otherwise specified (PNOS): 10 mg/m³ (Inhalable); 3 mg/m³ (Respirable) and an OSHA particulate not otherwise regulated (PNOR): 15 mg/m³ (Total); 5 mg/m³ (Respirable).**

Component	ACGIH TLV	OSHA PEL
Mica	3 mg/m³ (resp)	20 mppcf (<1% crystalline silica). See Table Z-3.
Silica, crystalline, quartz	0.025 mg/m³	see Table Z-3

Mica
OSHA - Final PELs - Table Z-3 Mineral Dusts
20 mppcf TWA (<1% Crystalline silica)
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

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.

Personal protective equipment

Eye protection	Tightly fitting safety goggles.
Hand protection	Wear chemical resistant gloves such as nitrile or neoprene.
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.
Skin and body protection	Wear suitable protective clothing, Eye wash and emergency shower must be available at the work place.
Hygiene measures	Wash hands before eating, drinking or smoking, Remove and wash contaminated clothing before re-use.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	Solid
Appearance	No information available
Color	Gray - Silver
Odor	Odorless
Odor threshold	Not applicable

Property	Values	Remarks
pH	No information available	
pH @ dilution	9	@10%
Melting/freezing point	1300 °C / 2372 °F	
Boiling point/range	No information available	
Flash point	No information available	PMCC
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	2.7 - 2.8	20 °C
Bulk density	No information available	
Water solubility	Insoluble in water	
Solubility in other solvents	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
Log Pow	No information available	

Explosive properties	Suspended dust may present a dust explosion hazard
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

Combustible material. Dust may form explosive mixture in air.

10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

10.3 Possibility of Hazardous Reactions

Hazardous polymerization
Hazardous polymerization does not occur.

10.4 Conditions to avoid

Avoid contact with heat, sparks, open flame, and static discharge.

10.5 Incompatible materials

Strong oxidizing agents.

10.6 Hazardous decomposition products

Carbon oxides (COx). Silicon oxide.

11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Inhalation	Inhalation of dust may cause shortness of breath, tightness of the chest, a sore throat and cough. Repeated or prolonged inhalation of crystalline silica dust can cause delayed lung injury, and other diseases, including silicosis and lung cancer.
Eye contact	Dust may cause mechanical irritation.
Skin contact	Repeated exposure may cause skin dryness or cracking.
Ingestion	Ingestion may cause stomach discomfort. Irritant; may cause pain or discomfort to mouth, throat and stomach.

Toxicology data for the components

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

Component	IARC Group 1 or 2	ACGIH - Carcinogens	OSHA listed carcinogens	NTP
Mica	No data available	No data available	No data available	No data available

Silica, crystalline, quartz	Group 1; Monograph 100C [2012] Group 1; Monograph 68 [1997] Monograph 100C [2012] (listed under Crystalline silica inhaled in the form of quartz or cristobalite from occupational sources); Monograph 68 [1997]	A2 Suspected Human Carcinogen	Present	Known Human Carcinogen

Sensitization As a precaution the product should be treated as a sensitizer.

Mutagenic effects No evidence of mutagenic properties.

Carcinogenicity Contains a known or suspected carcinogen.

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 Inhalation. Skin contact. Eye contact.

Routes of entry Inhalation.

Specific target organ toxicity (single exposure) Not classified

Specific target organ toxicity (repeated exposure) Not classified.

Target organ effects Respiratory system.

Aspiration hazard Not Applicable.

12. Ecological information

12.1 Toxicity

Toxicity to algae
This product is not considered toxic to algae. No product level data available. See component information below.

Toxicity to fish
Not considered toxic to fish. No product level data available. See component information below.

Toxicity to daphnia and other aquatic invertebrates
Not considered toxic. No product level data available. See component information below.

Component	Toxicity to fish	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates
Mica 12001-26-2 (60 - 100)	No information available	No information available	No information available
Silica, crystalline, quartz 14808-60-7 (1 - 5)	No information available	No information available	No information available

12.2 Persistence and degradability

Product is biodegradable. No product level data available.

12.3 Bioaccumulative potential

No data available.

12.4 Mobility in soil

The product is water soluble, and may spread in water systems.

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

Disposal Method	Disposal should be made in accordance with federal, state and local regulations. Empty containers should be handled in a manner not to cause dusting during collection, transporation and disposal.
Contaminated packaging	Do not re-use empty containers. Empty containers should be taken for local recycling, recovery or waste disposal. Dispose of in accordance with local regulations. Do not burn, or use a cutting torch on, the empty drum.

14. Transport information

14.1 UN Number

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

14.2 Proper shipping name

The product is not covered by international regulation on the transport of dangerous goods

14.3 Hazard class(es)

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

14.4 Packing group

DOT Packing group	Not regulated
TDG Packing group	Not regulated
ADR/RID/ADN/ADG Packing group	Not regulated
IMDG Packing group	Not regulated
ICAO Packing group	Not regulated

14.5 Environmental hazard

Marine pollutant	No

14.6 Special precautions
None

15. Regulatory information

International inventories

USA (TSCA)	Complies
Canada (DSL)	Complies.
European Union (EINECS and ELINCS)	Complies
Philippines (PICCS)	Complies
Japan (ENCS)	Complies
China (IECSC)	Complies
Australia (AICS)	Complies
Korean (KECL)	Complies
New Zealand (NZIoC)	Complies

U.S. Federal and State Regulations

SARA 311/312 Hazard Categories
Fire Hazard (Combustible Dust)

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

16. Other information

Supersedes date	20/May/2015
Revision date	02/Feb/2016
Version	5
The following sections have been revised:	2. Hazards Identification 3. Composition/information on Ingredients 5. Fire-fighting measures 6. Accidental release measures 7. Handling and storage 8. EXPOSURE CONTROLS / PERSONAL PROTECTION 9. Physical and chemical properties 10. STABILITY AND REACTIVITY 11. Toxicological information Section 16: Other information.

HMIS classification

Health	1*
Flammability	1
Physical hazard	0

PPE	X

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

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.