Oren Hydrocarbons

SAFETY DATA SHEET
MICA

1. IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

Product Identifier	**MICA**
Other Means of Identification	Not applicable.
Recommended Use of Chemical and Restrictions on Use	Lost circulation material.
Supplier Details	**Oren Hydrocarbon Middle East Fzco.** P.O. Box 18159 Jebel Ali Free Zone (South) Dubai, UAE Tel: +971 4 8860497 Fax: +971 4 8860498
Emergency Phone Number	Tel: +971 4 8860497

2. HAZARDS IDENTIFICATION

Classification of the Substance / Mixture

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

CARCINOGENICITY – Category 1A
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) – Category 1

Label Elements Including Precautionary Statements

Hazard Pictogram(s):

Signal Word: Danger

Hazard statement(s): May cause cancer by inhalation. May cause damage to lungs through prolonged or repeated exposure if inhaled. Harmful to aquatic life.

Precautionary statements:
Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves and clothing, eye protection, and face protection. Do not breathe dust, fume, gas, mist, vapors, or spray. Wash skin thoroughly after handling. Do not eat, drink, or smoke when using this product. Avoid release to the environment.
Response: If exposed or concerned, get medical attention. Get medical attention if you feel unwell.
Storage: Store locked up.
Disposal: Dispose of contents and container in accordance with local, state, and federal regulations.

Hazards Not Otherwise Classified: None known.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance / mixture: Substance.

Component	CAS No.	Weight (%)
MICA	12001-26-2	95 – 100
SILICA, CRYSTALLINE, QUARTZ	14808-60-7	1 – 5

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

4. FIRST AID MEASURES

First Aid Measures

Inhalation: Move the exposed person to fresh air at once, and rest, preferably in a comfortable upright sitting position. Get medical attention if any discomfort continues.
Skin contact: Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention promptly if symptoms occur after washing.
Eye contact: Make sure to remove any contact lenses from the eyes before rinsing. Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.
Ingestion: Make sure to remove any contact lenses from the eyes before rinsing. Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

Most Important Symptoms / Effects, Acute and Delayed

Acute effects: No specific data.
Delayed effects: Breathing crystalline silica can cause lung disease, including silicosis and lung cancer. Crystalline silica has also been associated with scleroderma and kidney disease.

Indication of Immediate Medical Attention and Special Treatment Needed

Note to physician: Treat symptomatically.
Specific treatments: Specific treatment must be based on judgement of the physician in response to reactions of the patient.
Protection of first aiders: No action shall be taken involving any personal risk without suitable training.

5. FIREFIGHTING MEASURES

Extinguishing Media

Suitable extinguishing media: All standard firefighting media.
Extinguishing media which must not be used for safety reasons: No specific data.

Special Hazards Arising from the Substance or Mixture

Not applicable.

Special Protective Equipment and Precautions for Firefighters

Wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

Use appropriate protective equipment. Avoid creating and breathing dust. See Section 8 of this safety data sheet for additional information.

Environmental precautions: No specific precaution. Discard any product, residue, disposable container or liner in compliance with regulatory requirements.

Methods and Materials for Containment and Cleaning Up

Avoid dry sweeping that may create excessive dust. Use water spraying/flushing, ventilated vacuum equipment with HEPA filters, or wet sweeping/dust suppressant.

7. HANDLING AND STORAGE

Precautions for Safe Handling

Protective measures: This product contains quartz which may become airborne without a visible cloud. Avoid breathing dust. Avoid creating dusty conditions. Use only with adequate ventilation to keep exposure below recommended exposure limits. Wear a NIOSH certified or equivalent respirator when using this product. Material is slippery when wet.
Advice on general occupational hygiene: Wash hands after handling and before eating. Avoid prolonged exposure. All handling to take place in well-ventilated area. Shower after work. Remove and wash contaminated clothing promptly. See also Section 8 for additional information on hygiene measures.

Conditions for Safe Storage, Including Any Incompatibilities

Do not reuse empty container. Store in a cool, dry location. Use good housekeeping in storage and work areas to prevent accumulation of dust. Close container when not in use.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control Parameters

Occupational exposure limits:

Product / ingredient Name	CAS Number	OSHA PEL-TWA	ACGIH TLV-TWA
Mica	12001-26-2	20 mppcf 8-HR (Respirable fraction)	3 mg/m^3 (Respirable fraction)
Silica, crystalline, quartz	14808-60-7	10 mg/m^3 %SiO_2 + 2	TWA: 0.025 mg/m^3

Appropriate Engineering Controls

Use approved industrial ventilation and local exhaust as required to maintain exposures below applicable exposure limits.

Individual Protection Measures, Such as Personal Protective Equipment

If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.
Hygiene measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and / or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that

cannot be cleaned. Ensure that eyewash stations and safety showers are close to the workstation location.
Eye / face protection: Wear safety glasses or goggles to protect against exposure.
Hand protection: Normal work gloves.
Body protection: Wear clothing appropriate for the work environment. Dusty clothing should be laundered before reuse. Use precautionary measures to avoid creating dust when removing or laundering clothing.
Other skin protection: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved.
Respiratory protection: Wear a NIOSH certified respirator when using this product. 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Grey powder dust.
Odor	Odorless.
Odor Threshold	Not available.
pH	7.0 - 8.0 @ 10%.
Melting Point / Freezing Point	Not available.
Initial Boiling Point and Boiling Range	Not available.
Flash Point	Not available.
Evaporation Rate	Not available.
Flammability (solid, gas)	Not available.
Upper / Lower Flammability or Explosive Limits	Not available.
Vapor Pressure	Not available.
Bulk Density	1746 kg/m^3.
Relative Density	2.16 – 2.88.
Solubility	Insoluble in water.
Partial coefficient (n-octanol / water)	Not available.
Auto-ignition Temperature	Not available.
Decomposition Temperature	Not available.

Viscosity	Not available.

10. STABILITY AND REACTIVITY

Reactivity	Not expected to be reactive.
Chemical Stability	Stable under normal conditions.
Possibility of Hazardous Reactions	Will not occur.
Conditions to Avoid	None known.
Incompatible Materials	None known.
Hazardous Decomposition Products	Not known to polymerize.

11. TOXICOLOGICAL INFORMATION

Information on Toxicological Effects

Acute toxicity:

Product / ingredient Name	CAS Number	Oral LD_{50}	Dermal LD_{50}	Inhalation LD_{50}
Silica, crystalline, quartz	14808-60-7	500 mg/kg (rat) >15000 mg/kg (human)	No data available	No data available

Irritation / Corrosion: No information available.

Sensitization: No respiratory sensitization information available for any of the components.

Mutagenicity: No information available.

Carcinogenicity: In 1997, the International Agency for Research on Cancer (IARC) concluded that crystalline silica inhaled from occupational sources can cause lung cancer in humans. However in making the overall evaluation, IARC noted that "carcinogenicity was not detected in all industrial circumstances studied. Carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs." (IARC Monographs on the evaluation of the carcinogenic risks of chemicals to humans, Silica, silicates dust and organic fibres, 1997, Vol. 68, IARC, Lyon, France.)

In June 2003, the European Union Scientific Committee on Occupational Exposure Limits (SCOEL) concluded that the main effect in humans of the inhalation of respirable crystalline silica dust is silicosis. "There is sufficient information to conclude that the relative risk of lung cancer is increased in persons with silicosis (and, apparently, not in

employees without silicosis exposed to silica dust in quarries and in the ceramic industry). Therefore, preventing the onset of silicosis will also reduce the cancer risk..." (SCOEL SUM Doc 94-final, June 2003). Silicosis is a progressive, disabling, and sometimes fatal lung disease. Symptoms include cough, shortness of breath, wheezing, non-specific chest illness, and reduced pulmonary function. The disease is exacerbated by smoking. Individuals with silicosis are predisposed to develop tuberculosis.

The National Toxicology Program (NTP), within the U.S. Department of Health and Human Services, classifies respirable crystalline silica as "Known to be a human carcinogen". Refer to the 9th Report on Carcinogens (2000). The American Conference of Governmental Industrial Hygienists (ACGIH) classified crystalline silica, quartz, as a suspected human carcinogen (A2). There is some evidence that breathing respirable crystalline silica or the disease silicosis is associated with an increased incidence of significant disease endpoints such as sclerodema (an immune disorder manifested by scarring of the lungs, skin, and other internal organs) and kidney disease.

According to the current state of the art, worker protection against silicosis can be consistently assured by respecting the existing regulatory occupational exposure limits. Occupational exposure to respirable dust and respirable crystalline silica should be monitored and controlled.
Reproductive toxicity: No information available.
Teratogenicity: No information available.
Specific target organ toxicity (single exposure): No information available.

Specific target organ toxicity (repeated exposure):

Product / ingredient name	CAS Number	Result
Silica, crystalline, quartz	14808-60-7	Causes damage to organs (lungs) through prolonged or repeated exposure if inhaled

Aspiration hazard: Not applicable.

Information on Likely Routes of Exposure

Routes of entry anticipated: Oral; dermal, inhalation.
Inhalation: No specific data.
Skin contact: No specific data.
Eye contact: No specific data.
Ingestion: No specific data.

Symptoms Related to the Physical, Chemical and Toxicological Characteristics

Inhalation: Breathing silica dust may cause irritation of the nose, throat, and respiratory passages. Breathing silica dust may not cause noticeable injury or illness even though permanent lung damage may be occurring. Inhalation of dust may also have serious chronic health effects.
Skin contact: May cause mechanical skin irritation.
Eye contact: May cause mechanical irritation to eye.
Ingestion: None known.

Delayed and Immediate Effects, and also Chronic Effects From Short and Long-term Exposure

See Information on Toxicological Effects in this section of the safety data sheet.

Numerical Measures of Toxicity **Acute toxicity estimate:** Not available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Product / ingredient name	CAS Number	Algae	Fish	Invertebrates
Silica, crystalline, quartz	14808-60-7	-	LL_0 (96h) 10,000 mg/l (*Danio rerio*) (similar substance)	LL_{50} (24h) >10,000 mg/l (*Daphnia magna*) (similar substance)

Persistence and Degradability No information available.

Bioaccumulative Potential No information available.

Mobility in Soil No information available.

Other Adverse Effects No information available.

13. DISPOSAL CONSIDERATIONS

Description of Waste Residues and Information on Their Safe Handling and Methods of Disposal, Including the Disposal of Any Contaminated Packaging

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional or local authority requirements. Dispose of in an authorized landfill in accordance with local regulation. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues.

14. TRANSPORT INFORMATION

UN Number Not regulated.

UN Proper Shipping Name Not regulated.

Transport classes Not regulated.

Packing Group Not regulated.

Environmental Hazards Not applicable.

Transport in Bulk (according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

Special Precautions For User	Transport within user's premises: Always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

15. REGULATORY INFORMATION

U.S. Federal Regulations

CERCLA: Hazardous Substance List: Not applicable.
SARA Title III, Section 302 / 304 Extremely Hazardous Substances: Not applicable.
SARA Title III, Section 311 / 312 Hazard Categories: Chronic health hazard.
SARA Title III, Section 313 Toxics Release Inventory (TRI) Program: Not applicable.
TSCA:
TSCA 8(a) CDR Exempt / Partial Exemption: Not determined.
TSCA 8(b) Chemical Inventory: All components are listed or exempted.

U.S. State Regulations

California Proposition 65: The California Proposition 65 regulations apply to this product.
Massachusetts Right-to-Know: One or more components listed.
New Jersey Right-to-Know: One or more components listed.
Pennsylvania Right-to-Know: One or more components listed.

International Inventories

Australia (AICS):	Not determined.
Canada (DSL):	All components are listed or exempted.
China (IECSC):	Not determined.
European Union (EINECS / ELINCS):	Not determined.
Japan (ENCS):	Not determined.
New Zealand (NZIoC):	Not determined.
Philippines (PICCS):	Not determined.
South Korea (KECL):	Not determined.
Taiwan (NECI):	Not determined.
United States (TSCA):	All components are listed or exempted.

16. OTHER INFORMATION

Prepared By	Product Safety Committee
Revision Number	2.00
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Updates from Previous Revision	Updated all section to GHS format

Disclaimer

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Acronyms and Abbreviations

ACGIH	American Conference of Governmental Industrial Hygienists
AICS	Australian Inventory of Chemical Substances
CAS	Chemical Abstract Services (division of the American Chemical Society)
CDR	Chemical Data Reporting
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
DSL	Domestic Substances List
EC_{50}	Half Maximal Effective Concentration
EINECS / ELINCS	European Inventory of Existing Chemical Substances / European List of Notified Chemical Substances
ENCS	Existing and New Chemical Substances
IBC	International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
KECL	Korean Existing Chemical List
LC_{50}	Lethal concentration for 50 percent of the test population
LD_{50}	Lethal dose for 50 percent of the test population
LL_0	Lethal load for 0 percent of the test population
LL_{50}	Lethal load for 50 percent of the test population
MARPOL 73/78	International Convention for the Prevention of Pollution from Ships
mg/kg	Milligram per kilogram
mg/l	Milligram per liter
mg/m^3	Milligram per cubic meter
MSHA	Mine Safety and Health Administration
NECI	National Existing Chemical Inventory
NIOSH	National Institute for Occupational Safety and Health
NZIOC	New Zealand Inventory of Chemicals
OSHA	Occupational Safety and Health Administration, U.S. Department of Labor
PEL	Permissible Exposure Limit
PICCS	Philippines Inventory of Chemicals and Chemical Substances
ppm	Part per million
SARA	Superfund Amendments and Reauthorization Act
TLV	Threshold Limit Value
TSCA	Toxic Substances Control Act
TWA	Time-weighted Average
UN	United Nations
U.S.	United States

END OF SAFETY DATA SHEET