



FRANCIS DRILLING FLUIDS, LTD.

MATERIAL SAFETY DATA SHEET

I. PRODUCT IDENTIFICATION

Trade Name(s): Silica Sand	
Generic Name(s): Free Silica Crystalline Silica	
Chemical Name(s): Silicon Dioxide	
Francis Drilling Fluids, LTD. P.O. Box 1694 Crowley, LA 70527-1694	Emergency/Telephone No.: 800-960-6610 337-783-8685 Hazardous Materials No.: 800-255-3924 Poison Control Center No.: 800-256-9822

II. HAZARDOUS INGREDIENTS

Ingredient	CAS No.	%	Hazard
Silica: Crystalline Silica(Respirable)	7631-86-9	20-25	OSHA PEL 10 mg/m3 ACGIH TLV 10mg/m3
Quartz Total Dust	14808-60-7	90-95	OSHA PEL 30 mg/m3 ACGIH TLV 30 mg/m3

III. NFPA/HMIS HAZARD IDENTIFICATION SYSTEM

0=LEAST	1=SLIGHT	2=MODERATE	3=HIGH	4 =EXTREME
Health: 1				
Fire: 0				
Reactivity: 0				

IV. PHYSICAL DATA

Boiling Point (°F): NA	Specific Gravity (H ₂ O=1): 2.65
Vapor Pressure (mm. Hg): NA	Melting Point: 2912° F
Vapor Density (Air = 1): NA	Evaporation Rate: NA
Solubility in Water: Insoluble	pH: ND
Density (at 20° C): ND	Odor: Odorless
Appearance: White or tan sand	

V. FIRE AND EXPLOSION DATA

Flash Point: NA	Flammable Limits: LEL: NA UEL: NA
Special Fire Fighting Procedures: None	

Unusual Fire and Explosion Hazards: NA

Extinguishing Media: NA

VI. REACTIVITY

Stability: Stable

Hazardous Polymerization: Will not occur

Incompatibility: Powerful oxidizers, fluorine, chlorine, Trifluoride, manganese trioxide, oxygen difluoride

Hazardous Decomposition: NA

VII. HEALTH HAZARD INFORMATION

Routes of Exposure and Effects:

Skin: None indicated

Eyes: None indicated

Inhalation: Irritant, causing shortness of breath, wheezing, impaired pulmonary function and progressive symptoms.

Ingestion: None indicated

Permissible Exposure Limits: (for air contaminants)

OSHA PEL (8hr. TWA): Silica: 10 mg/m³ Quartz Total Dust: 30 mg/m³

ACGIH TLV: Silica: 10 mg/m³ Quartz Total Dust: 30 mg/me

Carcinogenicity:

Listed By NTP: Listed	Listed By: IARC: Listed	Listed By OSHA: Quartz Dust: Listed
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Acute Oral LD50:	Acute Dermal LD50:	Aquatic Toxicology LC50:
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Emergency and First Aid Procedures:

Skin: Rinse with soap and water.

Eyes: Flush with water.

Ingestion: ND

Inhalation: Breathe fresh air.

Additional Health Hazard Information.:

Medical conditions aggravated by exposure: Any chronic obstructed pulmonary disease.

VIII. HANDLING AND USE PRECAUTIONS

Steps to be Taken if Material is Released or Spilled: Follow established procedures for handling unregulated dust and sand. Scoop or shovel into container. Wetting with water will reduce airborne dust.

Waste Disposal Methods: May be handled as unregulated waste. Dispose of using normal trash compactor. Bury in approved areas. May be used as fill material. Similar to sand or dirt.

Handling and Storage Precautions: Do not store or mix with powerful oxidizers, fluorine, chlorine, trifluoride, manganese, trioxide, oxygen difluoride, keep well ventilated.

IX. INDUSTRIAL HYGIENE CONTROL MEASURES

Ventilation Requirements: Local exhaust as appropriate. Mechanical (general) as appropriate. Open air.

Respirator: Dust or mist respirator. Dependent upon exposure use NIOSH/MSHA recommended approved respirators.

Eye Protection: Safety glasses or full face shield.

Gloves: None

Other Protective Clothing or Equipment: As recommended for working conditions per NIOSH/MSHA.

X. SPECIAL PRECAUTIONS

ACGIH TLV Crystalline Quartz - TLV - TNA = 0.1 mg/m3 (respirable dust)

NIOSH has recommended that the permissible exposure limit be 50 micrograms respirable silica per cubic meter of air 50 mg/m3 averaged over a work shift of up to 10 hours. *The International Agency for Research on Cancer (IARC) classifies crystalline silica "probably carcinogenic to humans." There is limited evidence of the carcinogenicity of crystalline silica to humans. IARC defines "limited evidence" in humans as follows: "Limited evidence of carcinogenicity indicates that a casual interpretation is credible, but that alternative explanations, such as chance, bias or confounding, could not adequately be excluded."

XI. ENVIRONMENTAL/SAFETY REGULATION

DEPARTMENT OF TRANSPORTATION

Shipping Name: None

Hazard Class: None

Hazardous Substance: None

Cautionary Labeling: None

NA=Not Applicable; ND=Not Determined or No Data

Date Prepared: August 8, 1995

File Name: Sand

The data presented is true and correct to the best of our knowledge and belief; however, neither seller nor preparer make any warranties, express or implied, concerning the information presented. The user is cautioned to perform his own hazard evaluation and to rely upon his own determinations.