



KRETUS®

Safety Data Sheet

SECTION 1: IDENTIFICATION

Product Name: KRETUS® Urethane Polymer Concrete, Part C - MF, RC, RC HIGH HEAT, SL, TT, VC, WC,

Recommended Use: For professional use only.

Manufacturer: Kretus, 1055 W. Struck Ave., Orange, CA 92867

Telephone: (714) 694-2061

24 Hour Emergency Telephone Number: (800) 255-3924 (CHEMTEL)

Emergency telephone numbers are to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure, or accident involving chemicals. All non-emergency questions should be directed to customer service.

Comments: To the best of our knowledge, this Safety Data Sheet conforms to the requirements of US OSHA 29 CFR1910.1200, 91/155/EEC.

SECTION 2: HAZARD IDENTIFICATION

Emergency Overview: Portland cement: When in contact with moisture in eyes or on skin, or when mixed with water, Portland cement becomes highly caustic (pH>12) and will damage or burn (as severely as third-degree) the eyes or skin. Inhalation may cause irritation to the moist mucous membranes of the nose, throat and upper respiratory system or may cause or may aggravate certain lung diseases or conditions. Use exposure controls or personal protection methods described in Section 8.

Crystalline silica (quartz) is not known to be an environmental hazard. Crystalline silica (quartz) is incompatible with hydrofluoric acid, fluorine, and chlorine trifluoride or oxygen difluoride.

OSHA Regulatory Status: This material is considered hazardous under the OSHA Hazard Communications Standard (29 CFR 1910.1200).

Classification of the substance or mixture:

Carcinogenicity-Category 1A

Specific target organ toxicity (repeated exposure) – Category 2

Skin Corrosion/Irritation-Category 1C

Serious Eye Damage/Eye Irritation – Category 1

Skin sensitization- Category 1

May cause cancer by inhalation. Causes damage to lungs through prolonged or repeated exposure by inhalation.

Signal Word: **DANGER**



Hazard Statements:

- H314 - Causes severe skin burns and eye damage
- H317 - May cause an allergic skin reaction
- H318 - Causes serious eye damage
- H335 - May cause respiratory irritation
- H350 - May cause cancer (Inhalation)
- H350 - May cause cancer.
- H372 - Causes damage to organs through prolonged or repeated exposure.

Precautionary Statements:

- P201 - Obtain special instructions before use.
- P202 - Do not handle until all safety precautions have been read and understood.
- P260 - Do not breathe dust.
- P264 - Wash hands, forearms, and exposed areas thoroughly after handling.
- P271 - Use only outdoors or in a well-ventilated area.
- P272 - Contaminated work clothing should not be allowed out of the workplace.
- P280 - Wear protective gloves, protective clothing, face protection, eye protection.
- P301+P330+P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
- P303+P361+P353+P352 - IF ON SKIN (or hair): Remove/Take off immediately all hazard contaminated clothing. Rinse skin with water/shower. Wash with plenty of soap and water.
- P304+P340 - IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.
- P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P310 - Immediately call a POISON CENTER or doctor/physician.
- P321 - Specific treatment (see Section 4).
- P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
- P362+P364 - Take off contaminated clothing and wash it before reuse.
- P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
- P405 - Store locked up.
- P501 - Dispose of contents/container according to local, regional, state, national, territorial, provincial, and international regulations. Other Hazards

Other Hazards Not Contributing to the Classification: Inhalation can cause serious, potentially irreversible lung/respiratory tract tissue damage due to chemical (caustic) burns, including third degree burns. Individuals with lung disease (e.g. bronchitis, emphysema, COPD, pulmonary disease) or sensitivity to hexavalent chromium can be aggravated by exposure. Unknown Acute Toxicity (GHS-US) Not available

General Information: This product does contains carcinogens according to IARC, ACGIH, NTP and/or OSHA in concentrations of 0.1 percent or greater. Prolonged contact may result in chemical burns and permanent damage. Repeated or prolonged contact causes sensitization, asthma, and eczemas.

Storage: Keep container tightly closed and locked in a cool, well-ventilated place.

Disposal: Dispose of contents/container to an approved waste disposal plant in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Read the entire SDS for a more thorough evaluation of the hazards.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

Chemical Name	CAS No.	Concentration (% by Weight)
Crystalline Silica (quartz)	14808-60-7	>0.1%
Portland Cement	65997-15-1	<50%
Aggregates (various sizes)	n/a	30-50%
Calcium Hydroxides	1305-62-0	<5%

SECTION 4: FIRST-AID MEASURES

Eye Contact: Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 20 minutes. Chemical burns must be treated promptly by a physician.

Inhalation: Seek medical help if coughing or other symptoms persist. Inhalation of large amounts of cement requires immediate medical attention. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If the individual is not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in a recovery position and get medical attention immediately. Maintain an open airway.

Skin Contact: Get medical attention immediately. Heavy exposure to cement dust, wet concrete or associated water requires prompt attention. Quickly remove contaminated clothing, shoes, and leather goods such as watchbands and belts. Quickly and gently blot or brush away excess cement. Immediately wash thoroughly with lukewarm, gently flowing water and non-abrasive pH natural soap. Seek medical attention for rashes, burns, irritation, dermatitis and prolonged unprotected exposure to wet cement, cement mixtures or liquids from wet cement. Burns should be treated as caustic burns. Cement causes skin burns with little warning. Discomfort or pain cannot be relied upon to alert a person to a serious injury. You may not feel pain or the severity of the burn until hours after the exposure. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure.

Ingestion: Get medical attention immediately. Call a poison center or physician. Have victim rinse mouth thoroughly with water. DO NOT INDUCE VOMITING unless directed to do so by medical personnel. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is

conscious, give small quantities of water to drink. Have victim drink 2 to 8 oz. (60 to 240 mL) of water. Stop giving water if the exposed person feels sick as vomiting may be dangerous. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

SECTION 5: FIRE-FIGHTING MEASURES

Suitable extinguishing media: Use extinguishing media appropriate for surrounding fire.

Specific hazards arising from the chemical: Product is not flammable, combustible or explosive.

Special protective equipment and precautions for fire-fighters: None required.

These products are not flammable, combustible or explosive

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures: Wear appropriate protective clothing and respiratory protection (see Section 8). Avoid generating airborne dust during clean-up.

Environmental precautions: No specific precautions. Report releases to regulatory authorities if required by local, state and federal regulations.

Methods and materials for containment and cleaning up: Avoid dry sweeping. Do not use compressed air to clean spilled sand or ground silica. Use water spraying/flushing or ventilated or HEPA filtered vacuum cleaning system, or wet before sweeping.

Dispose of in closed containers.

SECTION 7: HANDLING AND STORAGE

Handling: Do not breathe dust. Use adequate ventilation and dust collection. Keep airborne dust concentrations below permissible exposure limit ("PEL"). Do not rely on your sight to determine if dust is in the air. Respirable crystalline silica dust may be in the air without a visible dust cloud. If crystalline silica dust cannot be kept below permissible limits, wear a respirator approved for silica dust when using, handling, storing or disposing of this product or bag. See Section 8 for further information on respirators. Practice good housekeeping. Do not permit dust to collect on walls, floors, sills, ledges, machinery, or equipment. Maintain, clean, and fit test respirators in accordance with OSHA regulations. Maintain and test ventilation and dust collection equipment. Wash or vacuum clothing that has become dusty. Storage: Avoid breakage of bagged material or spills of bulk material. Use dustless methods (vacuum) and place into closable container for disposal, or flush with water. Do not dry sweep. The OSHA Hazard Communication Standard, 29 CFR 1910.1200, 1915.1200, 1917.28, 1918.90, 1926.59 and 1928.21, and state and local worker or community "right-to-know" laws and regulations needs to be strictly followed. WARN EMPLOYEES (AND YOUR CUSTOMERS IN CASE OF RESALE) BY POSTING AND OTHER MEANS OF THE HAZARDS AND THE REQUIRED OSHA PRECAUTIONS. PROVIDE TRAINING FOR YOUR EMPLOYEES ABOUT THE OSHA PRECAUTIONS. For additional precautions, see American Society for Testing and Materials (ASTM) standard practice E 1132-99a, "Standard Practice for Health Requirements Relating to Occupational Exposure to Respirable Crystalline Silica." Do not use any Kretus Sales and Services Aggregates material or quartz for sandblasting.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Guidelines:

Component	OSHA TWA	ACGIH	NIOSH TWA
Crystalline Silica (quartz)	10 mg/m ³ .	0.025 mg/m ³ .	0.05 mg/m ³ .

	Form: Respirable dust	Form: Respirable dust	Form: Respirable dust
Portland Cement	5 mg/m³.	3 mg/m³.	Not Applicable
	Form: Respirable dust	Form: Respirable dust	

Appropriate engineering controls: The use of ventilation or other engineering controls may be necessary to maintain airborne levels below any applicable limits. Under normal operations general ventilation should suffice.

Environmental exposure controls: Use general ventilation, local exhaust and/or wet suppression methods to maintain exposures below allowable exposure limits.

Exposure guidelines: OSHA PELs, MSHA PELs, and ACGIH TLVs are 8-hr TWA values. NIOSH RELs are for TWA exposures up to 10- hr/day and 40-hr/wk. Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled. Terms including “Particulates Not Otherwise Classified,” “Particulates Not Otherwise Regulated,” “Particulates Not Otherwise Specified,” and “Inert or Nuisance Due” are often used interchangeably; however, the user should review each agency’s terminology for differences in meanings.

Hygiene measures: Use good personal hygiene practices. Do not consume or store food in the work area. Wash hands thoroughly before eating, drinking, or smoking.

Eye/face protection: Safety glasses with side shields should be worn as minimum protection from dust. Dust goggles or full face protection should be worn when very dusty conditions are present or are anticipated.

Hand protection: Use alkali resistant gloves to provide hand protection from concrete.

Body protection: Clothing with long sleeves will provide protection. Waterproof boots high enough to prevent cement from entering should be worn when workers will be standing in wet concrete. Contaminated work clothing should be washed after use.

Other skin protection: Clothing with long sleeves and long pants should be used to prevent contact with wet concrete.

Respiratory protection: The need for respiratory protection should be evaluated by a qualified professional. The use of respirators for controlling exposures in excess of the PEL must comply with OSHA and MSHA requirements for medical surveillance, respiratory fit testing, repair and cleaning, and user training. In dusty areas, air monitoring for dust and quartz should be conducted regularly. Dust and quartz levels in excess of appropriate exposure limits should be reduced by all feasible engineering controls, including but not limited to, wet suppression, ventilation, process enclosure, and enclosed employee work stations.

Special Precaution: If crystalline silica (quartz) is heated to more than 870°C, it can change to a form of crystalline silica known as trydimite; if crystalline silica (quartz) is heated to more than 1470°C, it can change to a form of crystalline silica known as cristobalite. The OSHA PEL for crystalline silica as trydimite or cristobalite is one-half of the OSHA PEL for crystalline silica (quartz).

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Flowable granular mud-like, whitish
Odor	None
Odor Threshold	No Data Available
pH	Alkaline when Wet
Melting/Freezing Point	3110°F (1710°C)
Initial Boiling Point and Boiling Range	4046°F (2230°C)
Flash Point	Not Applicable
Evaporation Rate	No Data Available
Flammability	No Data Available

Upper/Lower Flammability or Explosive Limits	No Data Available
Auto-ignition Temperature	No Data Available
Vapor Pressure	None
Vapor Density	None
Relative Density/Specific Gravity	2.65
Solubility(ies)	Insoluble
Partition Coefficient: n-octanol/water	No Data Available
Decomposition Temperature	No Data Available
Viscosity	No Data Available
VOC (Volatile Organic Compounds)	None

SECTION 10: STABILITY AND REACTIVITY

Chemical stability: Stable under normal conditions. Hazardous reactions will not occur.

Conditions to avoid: Very excessive heat. Water

Materials to avoid: Contact with powerful oxidizing agents, such as fluorine, chlorine trifluoride and oxygen difluoride, may cause fires.

Hazardous decomposition products: Silica will dissolve in hydrofluoric acid and produce a corrosive gas – silicon tetrafluoride.

Hazardous polymerization: Under normal conditions hazardous polymerization will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity: Not reported to be acutely toxic.

Irritation/Corrosion: Skin: May cause skin burns or skin ulcers.

Eyes: May cause eye irritation or serious eye damage.

Respiratory: Studies indicate an increased risk of lung cancer from chronic exposure to respirable crystalline silica. This effect was more pronounced in those with silicosis. Studies have also linked crystalline silica exposure with autoimmune diseases and kidney disorders.

Sensitization: May cause sensitization due to the potential presence of trace amounts of hexavalent chromium.

Mutagenicity: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity: See chart below.

Product Name	OSHA	IARC	ACGIH	NTP
Portland Cement CAS 65997-15-1	-	-	A4	-
Crystalline Silica (quartz) CAS 14808-60-7	-	1	A2	Known to be a human carcinogen

Reproductive toxicity: Not expected to be a reproductive hazard.

Teratogenicity: Not expected to be a teratogenic hazard.

Specific target organ toxicity (single exposure)

Product Name	Category	Route of Exposure	Target Organs
Crystalline Silica (quartz) CAS 14808-60-7	-	Inhalation	Not reported to have effects

Specific target organ toxicity (repeated exposure)

Product Name	Category	Route of Exposure	Target Organs
Crystalline Silica (quartz) CAS 14808-60-7	-	Inhalation	May cause damage to organs (lung) through prolonged or repeated exposure.

Potential chronic health effects: General: Prolonged inhalation of respirable crystalline silica may be harmful. May cause damage to organs (lungs) through prolonged or repeated exposure. There are reports in the literature suggesting that excessive crystalline silica exposure may be associated with autoimmune disorders and other adverse health effects involving the kidney. In particular, the incidence of scleroderma (thickening of the skin caused by swelling and the thickening of fibrous tissue) appears to be higher in silicotic individuals. To date, the evidence does not conclusively determine a causal relationship between silica exposure and these adverse health effects.

Numerical measures of toxicity:

Crystalline Silica (quartz): LD50 oral rat >22,500 mg/kg

SECTION 12: ECOLOGICAL INFORMATION

Eco toxicity: Crystalline silica (quartz) is not known to be ecotoxic.

Persistence and degradability: Silica is not degradable.

Bio accumulative potential: Silica is not Bio accumulative

Mobility in soil: Silica is not mobile in soil.

Other adverse effects: No data available

No environmental hazard is anticipated provided that the material is handled and disposed of with due care and attention.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste should be disposed of according to local, state, and federal regulations. Chemical residues are generally classified as special waste, and as such are covered by regulations which vary according to location. Contact your local waste disposal authority for advice or pass to a chemical disposal company. Dispose of containers with care.

SECTION 14: TRANSPORT INFORMATION

	UN Number	UN Proper Shipping Name	Transport Hazard Class(es)	Packing Group	Environmental Hazards
DOT	None	Not Regulated	None	None	None
IMO/IMDG	None	Not Regulated	None	None	None
IATA/CAO	None	Not Regulated	None	None	None

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code.


SECTION 15: REGULATORY INFORMATION

Country	Regulatory List	Notification
USA	TSCA	Included on Inventory
EU	EINECS	Included on Inventory
CANADA	DSL	Included on Inventory
CHINA	SEPA	Included on Inventory
JAPAN	ENCS	Included on Inventory

OSHA: This product is considered to be a hazardous chemical under 29 CFR 1910.1200. SARA Section 311 AND 312 - This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories: Crystalline Silica (Quartz) CAS 14808-60-7 Delayed (chronic) health hazard

SARA Section 313 - This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372: None

California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)

 **WARNING:** This product can expose you to crystalline silica (airborne particles of respirable size), which is known to the State of California to cause cancer.

Product Name	CAS
Crystalline Silica (quartz)	14808-60-7

Massachusetts RTK: Listed New Jersey RTK: Listed Pennsylvania RTK: Listed

Others: Canadian WHMIS – D2A “Materials Causing Other Toxic Effects” EINECS No. - 238-878-4 Crystalline Silica (Quartz)/Silicon Dioxide EEC Label (Risk/Safety Phrases) - R 48/20, R 40/20, S22, S38

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

SECTION 16: OTHER INFORMATION

Hazardous Material Rating

Scale 0-4		NFPA	HMIS
4-Severe Hazard	Health	0	*,**
3-Serious Hazard	Flammability	0	0
2-Moderate Hazard	Reactivity	0	0
1-Slight Hazard			
0-Minimal Hazard			

** For further information on health effects, see Sections 3 and 11 of this SDS.

*= Chronic Health Hazard

Personal Protection: Safety goggles, neoprene rubber gloves, vapor respirator

Prepared by: Kretus, Inc.

Disclaimer: The information and recommendations presented herein are accurate to the best of our knowledge. User must conduct their own tests to determine the suitability of these products for their particular purposes and usage. Because of numerous factors affecting results, KRETUS® and its affiliation makes no warranty of any kind, express or implied, including those of merchantability and fitness for purpose, other than material conforms to our applicable current specifications. KRETUS® assumes no legal responsibility for use or reliance on the information contained in this safety data sheet.