



# Safety Data Sheet

SDS prepared by Richard Kreth

GHS – United States

## Section 1. Identification

**Product Name**            **Kreth Gage Red Clay**  
**Synonym**                    Gage Red Clay  
**Supplier/**  
**Manufacturer**            Kreth Inc.  
                                      601 Hwy 124  
                                      Ione, Ca. 95640 USA  
                                      209-274-2446    phone  
                                      209-274-2031    fax  
                                      krethinc@att.net

**Emergency Phone Number**    209-274-2031

**Product Use**                    Pottery Manufacturing and various industrial uses

**Restrictions on use**          Not applicable

## Section 2. Hazards Identification

GHS/Hazcom 2012 Labels	GHS/Hazcom 2012 Classifications:	
	<b>Health:</b>	
	CARCINOGENICITY (Inhalation) - Category 1A (quartz) (See Section 11 for carcinogen listings)	
	CARCINOGENICITY (Inhalation) - Category 2B (titanium dioxide)	
	SPECIFIC TARGET ORGAN TOXICITY (Repeated Exposure) (respiratory tract) (inhalation) - Category 1 (quartz)	
	SPECIFIC TARGET ORGAN TOXICITY (Repeated Exposure) (respiratory tract) (inhalation) - Category 2 (iron oxide)	
	SPECIFIC TARGET ORGAN TOXICITY (Single Exposure) (respiratory tract) (inhalation) - Category 3 (quartz)	
	EYE IRRITANT - Category 2A (quartz)	
SKIN IRRITANT - Category 2 (quartz)		
<b>Signal Word:</b>	<b>Environmental:</b>	Not Hazardous
<b>Danger</b>	<b>Physical:</b>	Not Hazardous

Hazard Statements:			
<b>Health:</b>			
H320	Causes eye irritation	H316	Causes mild skin irritation.
H372	Causes damage to organs (lungs) through prolonged or repeated exposure (inhalation).	H335	May cause respiratory irritation
		H350	May cause cancer.
<b>Environmental:</b>	Not hazardous	<b>Physical:</b>	Not hazardous

Precaution Statements:			
<b>Prevention</b>			
P261	Avoid breathing dust/spray.	P270	Do not eat, drink, or smoke when using this product.
P262	Do not get into eyes, on skin, or on clothing.	P273	Avoid release to the environment.
P264	Wash hands thoroughly after handling.	P284	[In case of inadequate ventilation] wear respiratory protection.
<b>Response</b>			
P314	Get medical advice/attention if you feel unwell.	P391	Collect Spillage.
P302+ P352	IF ON SKIN: Wash with plenty of soap and water.	P304+ P340	IF INHALED: Remove person to fresh air and keep 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.	P301+ P330+ P331	IF SWALLOWED: Rinse mouth. DO NOT induce vomiting.
P333+ P337+ P313	If skin or eye irritation persists get medical advice/attention.		
<b>Storage</b>		<b>Disposal</b>	
P402	Store in a dry place.	P501	Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Hazards not otherwise classified:</b>		Slippery when wet.	<b>% of ingredients with unknown acute toxicity:</b> None known.



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## Section 3. Composition / Information on Ingredients

Natural occurring material. Exact chemical composition varies.		
Chemical Name	CAS Numbers	Chemical % of Ingredient
Quartz, SiO <sub>2</sub> (Crystalline Silica)	CAS # 14808-60-7	20-40%
Kaolinite Al <sub>2</sub> O <sub>3</sub> .2SiO <sub>2</sub> .2H <sub>2</sub> O	CAS # 1332-58-7	70%
Alpha – Alumina Al <sub>2</sub> O <sub>3</sub> (Alumina Oxide)	CAS # 1344-28-1	28%
Iron Oxide Dust and Fume (as Fe)	CAS # 1309-37-1	18%
Titanium Dioxide TiO <sub>2</sub>	CAS # 13463-67-7	1.2%

## Section 4. First-Aid Measures

Description of first-aid Measures:	
<b>First-aid measures general</b>	Never give anything by mouth to an unconscious person. If you feel unwell, seek medical attention.
<b>First-aid measures after inhalation</b>	Move victim to well ventilated area. If mechanical discomfort persists, seek medical attention.
<b>First-aid measures after skin contact</b>	Remove contaminated clothing. Wash affected area with soap and warm water. Obtain medical attention if irritation persists.
<b>First-aid measures after eye contact</b>	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if pain, blinking, or redness persists.
<b>First-aid measures after ingestion</b>	Rinse mouth. Do NOT induce vomiting. Unlikely to be toxic by ingestion. If discomfort persists, seek medical attention.
Most Important Symptoms and Effects, both Acute and Delayed:	
<b>Symptoms/injuries</b>	Causes damage to organs through prolonged or repeated exposure (inhalation) from dust.
<b>Symptoms/injuries after inhalation</b>	May cause cancer by inhalation. Dust from this product may cause irritation to the respiratory tract.
<b>Symptoms/injuries after skin contact</b>	Prolonged contact with large amounts of dust may cause mechanical irritation.
<b>Symptoms/injuries after eye contact</b>	Prolonged contact with large amounts of dust may cause mechanical irritation.
<b>Symptoms/injuries after ingestion</b>	If a large quantity has been ingested: intestinal blockage. Gastrointestinal irritation.
<b>Chronic symptoms</b>	Repeated or prolonged exposure to respirable crystalline silica dust may cause lung damage in the form of silicosis. Symptoms will include progressively more difficult breathing, cough, fever, and weight loss. Acute silicosis can be fatal.

If exposed or concerned, get medical advice and attention.

## Section 5. Fire-Fighting Measures



National Fire Protection Association (U.S.A.)

<b>Suitable extinguishing media</b>	This material is not combustible. Use extinguishing media appropriate for surrounding fire.
<b>Unsuitable extinguishing media</b>	No restrictions on extinguishing media for this mixture.
<b>Special hazards arising from the substance or mixture</b>	This material is not flammable and does not support fire.
<b>Hazardous thermal decomposition products</b>	This mixture does not contain hazardous decomposition products.
<b>Special protective actions for fire-fighters</b>	Product can become slippery when wet.
<b>Special protective equipment for fire-fighters</b>	Fire-fighters should wear appropriate protective equipment.

## Section 6. Accidental Release Measures

<b>Use of personal precautions</b>	Avoid inhalation of dry clay dust. Wear a N-95 face mask when cleaning up dry clay dust.
<b>Emergency procedures</b>	There are no emergency procedures required for this mixture.
<b>Methods and Materials for containment</b>	Product comes in plastic bags and weigh 25 lbs. There are no spill measures that apply for moist clay.
<b>Clean up procedures</b>	For dry dusts, use a vacuum to clean up spillage. If appropriate, use gentle water spray to wet down and minimize dust generation. Place dry clay dust in a sealed container.

## Section 7. Handling & Storage

<b>Precautions for safe handling</b>	Keep out of direct sunlight. Bags weigh 52 lbs. Use proper lifting techniques to avoid physical injury. Use proper personal protective equipment (N-95 face mask, safety goggles and gloves.)
<b>Recommendations on the conditions for safe storage</b>	No special storage considerations, but keep in a dry, cool location.



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## Section 8. Exposure Controls / Personal Protection

Chemical Name	CAS Numbers	Occupational Exposure Limits
Quartz, SiO2 (Crystalline Silica)	CAS#14808-60-7	ACGIH TLV: TWA 0.025 mg/m <sup>3</sup> (respirable) OSHA PEL: TWA 10 mg/m <sup>3</sup> / divided by the value "%SiO2" + 2 (respirable) OSHA PEL: TWA 30 mg/m <sup>3</sup> / divided by the value "%SiO2" + 2 (total dust) CAL OSHA PEL: TWA .05 mg/m <sup>3</sup> (respirable) CAL OSHA PEL: TWA .3 mg/m <sup>3</sup> (total)
Kaolinite Al2O3.2SiO2.2H2O	CAS#1332-58-7	ACGIH TLV: TWA 2 mg/m <sup>3</sup> (respirable) / particulate matter containing no asbestos and <1% crystalline silica (respirable) OSHA PEL: TWA 5 mg/m <sup>3</sup> (respirable) OSHA PEL: TWA 15 mg/m <sup>3</sup> (total) CAL OSHA PEL: TWA 2 mg/m <sup>3</sup> (respirable)
Alpha – Alumina Al2O3 (Alumina Oxide)	CAS#1344-28-1	ACGIH TLV: TWA 10 mg/m <sup>3</sup> for particulate matter containing no asbestos and < 1% crystalline silica OSHA PEL: TWA 5 mg/m <sup>3</sup> (respirable) OSHA PEL: TWA 15 mg/m <sup>3</sup> (total dust) CAL OSHA PEL: TWA 5 mg/m <sup>3</sup> (respirable) CAL OSHA PEL: TWA 10 mg/m <sup>3</sup> (total)
Iron Oxide Dust and Fume (as Fe)	CAS# 1309-37-1	ACGIH TLV: TWA 5 mg/m <sup>3</sup> (fume & dust) OSHA PEL: TWA 5 mg/m <sup>3</sup> (respirable) OSHA PEL: TWA 15 mg/m <sup>3</sup> (total dust) CAL OSHA PEL: TWA 5 mg/m <sup>3</sup>
Titanium Dioxide TiO2	CAS# 13463-67-7	ACGIH TLV: TWA 10 mg/m <sup>3</sup> (respirable) OSHA PEL: TWA 15 mg/m <sup>3</sup> CAL OSHA PEL: TWA 5 mg/m <sup>3</sup> (respirable) CAL OSHA PEL: TWA 10 mg/m <sup>3</sup> (total)

**Appropriate engineering controls:** Clay in moist form poses no health risk and no inhalation risk. Once clay has dried, there may be dust generated by cleaning and working processes. In the event that dust is generated, use local exhaust ventilation or other engineering controls as required to maintain exposures below applicable occupational exposure limits (TLV).

### Recommendations for personal protective measures

**Local Exhaust:** When dry sanding or grinding clay products, use sufficient local exhaust to reduce the level of respirable dust to the applicable standards set forth in Section III. See ACGIH "Industrial Ventilation, A Manual of Recommended Practice," latest edition.

**Respiratory Protection:** Dust is generated when working with dry clay. To minimize exposure to dust and/or crystalline silica, cutting or sanding dry clay products should be conducted with sufficient ventilation. Respirable dust and quartz levels should be monitored regularly. Dust and quartz levels in excess of appropriate exposure limits should be reduced by feasible engineering controls, including (but not limited to) wet sanding, wet suppression, ventilation, and process enclosure. When such controls are not feasible, NIOSH/MSHA approved respirators must be worn in accordance with a respiratory protection program which meets OSHA requirements as set forth at 29 CFR1910.134 and ANSI Z88.2-1080 "Practices for Respiratory Protection". **In most cases, a disposable N-95 Particulate Respirator is sufficient.**

**Eye Protection:** Use NIOSH/OSHA approved safety glasses with side shields. Face shields should also be used when dry sawing clay products. Wear tight fitting dust goggles when excessively (visible) dusty conditions are present or are anticipated. NIOSH recommends that contact lenses not be worn when working with crystalline silica dust.

**Skin Protection:** Use gloves and/or protective clothing if abrasion or allergic reactions are experienced.

**Work/Hygienic Practices:** Avoid creating and breathing dust. Wear NIOSH/MSHA approved dust mask when working in dust conditions. (N-95) Food, beverages, and smoking materials should NOT be in the work area.

Persons using ceramic materials should wash thoroughly before eating, drinking, smoking, or applying cosmetics.



Protective Clothing Pictograms

N-95 face mask

## Section 9. Physical & Chemical Properties

Physical State	Dry Clay
Appearance	Red/brown powder
Odor	Earthy.
Odor Threshold	Not Applicable
pH	6 - 8
Solubility in Water	None
Melting Point	> 1325 °C (>2400°F)
Freezing Point	< 0 °C (<32°F)
Specific Gravity / Relative Density	No data available
Evaporation Rate	No data available
Initial Boiling Point and Range	Not Applicable
Flash Point	Not Applicable
Auto-Ignition Temperature	Not Applicable
Decomposition Temperature	Not Applicable
Upper/lower Flammability or explosive limits	Not Applicable
Flammability (solid/gas)	Not Applicable



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Vapor Density	Not Applicable
Vapor Pressure	Not Applicable
Viscosity	Not Applicable
Partition Coefficient: n-octanol/water	Not Applicable
Initial Boiling Point & Boiling Range	Not Applicable

## Section 10: Stability & Reactivity

<b>Reactivity</b>	Hazardous reactions will not occur under normal conditions.
<b>Chemical stability</b>	Stable
<b>Possibility of hazardous reactions</b>	Hazardous polymerization will not occur.
<b>Conditions to avoid</b>	None known
<b>Incompatible materials</b>	None known
<b>Hazardous decomposition products</b>	None known

## Section 11: Toxicological Information

<b>Routes of Exposure</b>	Inhalation of dry clay dust, Ingestion				
<b>Descriptions of the delayed, immediate, or chronic effects from short- and long-term exposure</b>					
<b>Inhalation</b>	Inhalation of high concentrations of dry clay dust may cause mechanical irritation and discomfort. Long term exposure may cause chronic effects.				
<b>Eye Contact</b>	Not a primary eye irritant. May cause mechanical irritation.				
<b>Skin Contact/Irritation</b>	Not a skin irritant. Not absorbed through skin.				
<b>Sensitization</b>	Not a sensitizer.				
<b>Ingestion</b>	Not an ingestion hazard.				
<b>Chronic Effects</b>					
<b>OSHA Carcinogen</b>	Lung cancer – Silica has been classified by OSHA as a human lung carcinogen. Repeated or prolonged exposure to respirable crystalline silica dust may cause lung damage in the form of silicosis. Symptoms will include progressively more difficult breathing, cough, fever, and weight loss. Acute silicosis can be fatal.				
<b>Mutagenic Effects</b>	None Known				
<b>Teratogenic Effects</b>	None Known				
<b>Developmental Toxicity</b>	None Known				
<b>Effects of Silicosis</b>			<b>Symptoms of Silicosis</b>		
Bronchitis/Chronic Obstructive Pulmonary Disorder. Tuberculosis – Silicosis makes an individual more susceptible to TB. Scleroderma – a disease affecting skin, blood vessels, joints and skeletal muscles. Possible renal disease.			Shortness of breath; possible fever. Fatigue; loss of appetite. Chest pain; dry, nonproductive cough. Respiratory failure, which may eventually lead to death.		
<b>Numerical Measures of toxicity</b>	None Known				
<b>Remarks</b>					
<b>Carcinogenicity</b>	Repeated or long term exposure to respirable crystalline silica dust may cause lung damage in the form of silicosis. Symptoms will include progressively more difficult breathing, cough, fever, and weight loss. Acute silicosis can be fatal. Short term exposure is of little concern.				
<b>OSHA, IARC, and NTP Carcinogen Classifications</b>					
<b>Chemicals with Carcinogen Potential</b>	<b>CAS#</b>	<b>OSHA</b>	<b>IARC</b>	<b>NTP</b>	
Quartz, (Crystalline Silica)	SiO <sub>2</sub>	CAS # 14808-60-7	Yes	Yes - Group 1	Yes
Iron Oxide Dust and Fume	(as Fe)	CAS # 1309-37-1	No	No - Group 3	No
Titanium Dioxide	TiO <sub>2</sub>	CAS # 13463-67-7	No	Yes - Group 2b	No

Substances, mixtures and exposure circumstances in this list have been classified by the [IARC](#) as **Group 1: The agent (mixture) is carcinogenic to humans.** The exposure circumstance entails exposures that are carcinogenic to humans. This category is used when there is *sufficient evidence* of carcinogenicity in humans. Exceptionally, an agent (mixture) may be placed in this category when evidence of carcinogenicity in humans is less than sufficient but there is *sufficient evidence* of carcinogenicity in experimental animals and strong evidence in exposed humans that the agent (mixture) acts through a relevant mechanism of carcinogenicity.

Substances, mixtures and exposure circumstances in this list have been classified by the [International Agency for Research on Cancer \(IARC\)](#) as **Group 2B: The agent (mixture) is possibly carcinogenic to humans.** The exposure circumstance entails exposures that are possibly carcinogenic to humans. This category is used for agents, mixtures and exposure circumstances for which there is limited evidence of carcinogenicity in humans and less than sufficient evidence of carcinogenicity in experimental animals. It may also be used when there is inadequate evidence of carcinogenicity in humans but there is sufficient evidence of carcinogenicity in experimental animals. In some instances, an agent, mixture or exposure circumstance for which there is inadequate evidence of carcinogenicity in humans but limited evidence of carcinogenicity in experimental animals together with supporting evidence from other relevant data may be placed in this group. Further details can be found in the [preamble to the IARC Monograph](#).



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Substances, mixtures and exposure circumstances in this list have been classified by the IARC as **Group 3: The agent (mixture or exposure circumstance) is not classifiable as to its carcinogenicity to humans**. This category is used most commonly for agents, mixtures and exposure circumstances for which the evidence of carcinogenicity is inadequate in humans and inadequate or limited in experimental animals. Exceptionally, agents (mixtures) for which the evidence of carcinogenicity is inadequate in humans but sufficient in experimental animals may be placed in this category when there is strong evidence that the mechanism of carcinogenicity in experimental animals does not operate in humans. Agents, mixtures and exposure circumstances that do not fall into any other group are also placed in this category. Further details can be found in the [IARC Monographs](#).

## Section 12. Ecological Information (non-mandatory)

Ecotoxicity	None Known
Biochemical oxygen demand (BOD5)	None Known
Chemical oxygen demand(COD)	None Known
Products of Biodegradation	None Known
Toxicity of the products of Biodegradation	None Known
Bioaccumulation Potential	None Known
Potential to move from soil to groundwater	None Known
Other adverse effects	None Known


## Section 13. Disposal Considerations (non-mandatory)

<b>Personal Protection</b>	Refer to Section 8: "Recommendations for Personal Protective Measures-PPE" when disposing of waste material.
<b>Appropriate disposal containers</b>	Standard waste disposal containers – no specials requirements.
<b>Appropriate disposal methods</b>	Disposal of this product should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. In most cases, this is normal waste disposal. The generation of waste should be avoided or minimized. Dispose of non-recyclable products via a licensed waste disposal contractor. Waste packaging should be recycled. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers.
<b>Physical and chemical properties that may affect disposal</b>	Dry clay dust should be placed in a sealed container or in a manner that reduces or eliminates the release of the product.
<b>Sewage disposal</b>	Do not dispose of into sinks or toilets. Never dispose of this product into a sewer system.
<b>Special precautions for landfills or incineration activities</b>	There are no special precautions for disposal in a landfill. This product is non-combustible and is not suitable for incineration.

## Section 14. Transportation Information (non-mandatory)

Regulatory Information	UN Number	UN Proper Shipping Name	Transport Hazard Class	Packing Group Number	Bulk Transport Guidance	Special Precautions
DOT Classification	Not regulated	-	-	-	-	-
TDG Classification	Not regulated	-	-	-	-	-
ADR/RID Class	Not regulated	-	-	-	-	-
IMDG Class	Not regulated	-	-	-	-	-
IATA-DGR Class	Not regulated	-	-	-	-	-

## Section 15. Regulatory Information (non-mandatory)

TSCA – Toxic Substances Control Act - EPA	Quartz and other chemicals are listed in the TSCA Chemical Substance Inventory
California Prop. 65	 WARNING: This product can expose you to chemicals including quartz which is known to the State of California to cause cancer. For more information, go to <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a> .
SARA/Title III (Emergency Planning & Community Right-to-Know Act)	This mixture contains no substances at or above the reporting threshold under Section 313, based on available data.



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## Section 16. Other Information

### Definitions

**ASTM** means American System of Testing and Materials

**OSHA** means Occupational Safety & Health Administration

**IARC** means International Agency for Research on Cancer

**NTP** means National Toxicology Program

**HCS** means Hazardous Communication Standard

**CAS** means Chemical Abstract Service

**ACGIH** means American Conference of Governmental Industrial Hygienists

**CAL-OSHA** means California OSHA, most CAL-OSHA standards defer to the federal OSHA standards

**OSHA** means Occupational Safety & Health Administration

**OSHA PEL** means OSHA Permissible Exposure Limit

**OSHA STEL** means spot exposure for a duration of 15 minutes, that cannot be repeated more than 4 times per day, with at least 60 minutes between exposure periods

**TWA** means Time Weighted Average (average exposure on the basis of an 8h/day, 40h/week work schedule)

**TLV** means Threshold Limit Value - American Conference of Governmental Industrial Hygienists (ACGIH)

Three types of TLVs for chemical substances as defined by the ACGIH are:

1. **TLV-TWA** - Time weighted average - average exposure on the basis of an 8h/day, 40h/week work schedule.
2. **TLV-STEL** - Short-term exposure limit - spot exposure for a duration of 15 minutes, that cannot be repeated more than 4 times per day, with at least 60 minutes between exposure periods.
3. **TLV-C** - Ceiling limit - absolute exposure limit that should not be exceeded at any time.

This SDS is in compliance with The Globally Harmonized System of Classification and Labeling of Chemicals (GHS) – prepared August 16, 2019.

This data sheet is subject to change without notice.

Information presented herein has been compiled from sources considered to be dependable and is accurate and reliable to the best of our knowledge and belief but is not guaranteed to be so. Nothing herein is to be construed as recommending any practice or any product in violation of any patent or in violation of any law or regulation. It is the user's responsibility to determine for himself the suitability of any material for a specific purpose and to adopt such safety precautions as may be necessary. We make no warranty as to the results to be obtained in using any material and, since conditions of use are not under our control, we must necessarily disclaim all liability with respect to the use of any material supplied by us.