

# Safety Data Sheet

**Section 1. Product and Company Identification**

**Product Name** Raku Glaze - RG-310 - Rosenus

**Synonym** Ceramic Glaze - dry

**Supplier/Manufacturer** Aardvark Clay & Supplies  
 1400 East Pomona St.  
 Santa Ana, Ca. 92705 USA  
 714-541-4157 phone  
 714-541-2021 fax  
[contact@aardvarkclay.com](mailto:contact@aardvarkclay.com)

**Emergency Phone Number** 911

**Product Use** Pottery Manufacturing

**Restrictions on use** Not applicable

**Section 2. Hazards Identification**

This glaze contains Gerstley Borate which is composed of a mixture of the minerals Colemanite and Ulexite. Gerstley Borate is a mineral-based product and **no specific hazardous properties have been observed**. Similar borate salts are considered hazardous under the OSHA Hazard Communications Standard and under the Canadian Controlled Products Regulations of the Hazardous Products Act, (WHMIS) based on animal chronic toxicity studies.

GHS/Hazcom 2012 Labels	GHS/Hazcom 2012 Classifications:
	<b>Health:</b>
	<b>ACUTE TOXICITY (Oral)</b> - Category 4 (copper carbonate)
	<b>Environmental:</b>
	Not Hazardous
<b>Signal Word:</b>	<b>Physical:</b>
Warning	Not Hazardous

Hazard Statements:			
Health:			
H302	Harmful if swallowed.	H373	May cause damage to organs through prolonged or repeated exposure.
Environmental:		Physical:	
Not hazardous.		Not hazardous	

Precaution Statements:			
Prevention			
P262	Do not get into eyes, on skin, or on clothing.	P202	Do not handle until all safety precautions have been read and understood.
P264	Wash hands thoroughly after handling.		
P270	Do not eat, drink, or smoke when using this product.	P261	Avoid breathing dust/spray.
P273	Avoid release to the environment.	P284	[In case of inadequate ventilation] wear respiratory protection.
Response			
P314	Get medical advice/attention if you feel unwell.	P391	Collect Spillage.
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+ P312+ P330	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.
P337+ P313	If eye irritation persists, get medical advice/attention.	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.	P332+ P313	If skin irritation occurs: Get medical advice/attention.
Storage		Disposal	
P402	Store in a dry place.	P501	Dispose of contents/container in accordance with local/regional/national/international regulations.
P404	Store in a closed container.		
Hazards not otherwise classified:		% of ingredients with unknown acute toxicity:	
Slippery when wet.		None known.	

## Section 3. Composition / Information on Ingredients

**Substance/Mixture:** Mixture - A trade secret claim is made for this glaze.

Chemical	CAS Numbers	Ingredients	Chemical % of Mixture
Sodium-Calcium Pentaborate Octahydrate NaO.2CaO.5B2O3.5H2O	CAS # 1319-33-1	Ulexite from Gerstley Borate	<10
Di-Calcium Hexaborate Pentahydrate Ca2B6O11.5H2O	CAS # 12291-65-5	Colemanite from Gerstley Borate	<30
Nepheline Syenite K2O.3Na2O.4Al2O3.8SiO2	CAS #37244-96-5	Nepheline Syenite	Trade Secret Claim
Cupric Carbonate CuCO3	CAS # 12069-69-1	Copper Carbonate	<35

## 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. Give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do NOT induce vomiting unless directed by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Maintain an open airway. Loosen tight clothing such as a collar or tie. Never give anything by mouth to an unconscious person. 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).
<b>Symptoms/injuries after inhalation</b>	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 and/or gastrointestinal irritation may result. No known significant effects or critical hazards.
<b>Chronic symptoms</b>	None known.

If exposed or concerned, get medical advice and attention.

## Section 5. Fire-Fighting Measures

NFPA



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

<b>Suitable extinguishing media</b>	This product 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 mixture 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>	None known.
<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 dust. Wear a N-95 face mask when cleaning up dust.
<b>Emergency procedures</b>	There are no emergency procedures required for this mixture.
<b>Methods and Materials for containment</b>	There are no special spill measures that apply for this mixture.
<b>Clean up procedures</b>	For dusts, use a vacuum to clean up spillage. If appropriate, use gentle water spray to wet down and minimize dust generation. Place mixture in a sealed container. <b>Wear a N-95 face mask when cleaning up dust.</b>

## Section 7. Handling & Storage

<b>Precautions for safe handling</b>	Keep bags out of direct sunlight. Do not expose this mixture to moisture until use. Do not expose liquid glaze to freezing. Use proper lifting techniques to avoid physical injury.
<b>Recommendations on the conditions for safe storage</b>	No special storage considerations, but keep in a dry, cool location.

## Section 8. Exposure Controls / Personal Protection

Chemical Name	CAS Numbers	Occupational Exposure Limits
Sodium-Calcium Pentaborate Octahydrate NaO.2CaO.5B2O3.5H2O	CAS # 1319-33-1	ACGIH TLV: TWA 2 mg/ m <sup>3</sup> OSHA PEL: TWA 5 mg/m <sup>3</sup> (respirable) OSHA PEL: TWA 15 mg/m <sup>3</sup> (total) CAL OSHA PEL: TWA 5 mg/ m <sup>3</sup>
Di-Calcium Hexaborate Pentahydrate Ca2B6O11.5H2O	CAS # 12291-65-5	ACGIH TLV: TWA 2 mg/ m <sup>3</sup> OSHA PEL: TWA 5 mg/m <sup>3</sup> (respirable) OSHA PEL: TWA 15 mg/m <sup>3</sup> (total) CAL OSHA PEL: TWA 5 mg/ m <sup>3</sup>
Nepheline Syenite K2O.3Na2O.4Al2O3.8SiO2	CAS #37244-96-5	ACGIH TLV: TWA 2 mg/ m <sup>3</sup> OSHA PEL: TWA 5 mg/m <sup>3</sup> (respirable) OSHA PEL: TWA 15 mg/m <sup>3</sup> (total) CAL OSHA PEL: TWA 5 mg/ m <sup>3</sup>
Copper (II) Carbonate CuCO3 No Occupational Exposure Limits are listed for this chemical.	CAS # 12069-69-1	ACGIH TLV: TWA not established OSHA PEL: TWA not established OSHA PEL: TWA not established CAL OSHA PEL: TWA not established

**Appropriate engineering controls:** When mixing this mixture, 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 mixing, use sufficient local exhaust to reduce the level of respirable dust to the applicable standards set forth in Section III - ACGIH "Industrial Ventilation, A Manual of Recommended Practice," latest edition.

**Respiratory Protection:** Dust is generated when working with this mixture. To minimize exposure to dust, mixing of this mixture should be conducted with sufficient ventilation. Respirable dust should be monitored regularly. Dust levels in excess of appropriate exposure limits should be reduced by feasible engineering controls, including (but not limited to) 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 can also be used when mixing dry glaze. 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 ceramic 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 dusty conditions - (N-95).

Food, beverages, and smoking materials should NOT be in the work area.

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



Protective Clothing Pictograms

N-95 face mask

**Section 9. Physical & Chemical Properties**

<b>Physical State</b>	Powder
<b>Appearance</b>	Tinted powder
<b>Odor</b>	None
<b>Odor Threshold</b>	Not Applicable
<b>pH</b>	6 – 8
<b>Solubility in Water</b>	None
<b>Melting Point</b>	1050 °C (1900°F)
<b>Freezing Point</b>	< 0 °C (<32°F)
<b>Specific Gravity / Relative Density</b>	2.35 g/cc
<b>Evaporation Rate</b>	No data available
<b>Flash Point</b>	Not Applicable
<b>Auto-Ignition Temperature</b>	Not Applicable
<b>Decomposition Temperature</b>	Not Applicable
<b>Flammability</b>	Not Applicable
<b>Vapor Pressure</b>	Not Applicable
<b>Vapor Density</b>	Not Applicable
<b>Explosive Limits</b>	Not Applicable
<b>Viscosity</b>	Not Applicable
<b>Partition Coefficient: n-octanol/water</b>	Not Applicable
<b>Initial Boiling Point &amp; Boiling Range</b>	Not Applicable

**Section 10. Stability & Reactivity**

<b>Reactivity</b>	Hazardous reactions will not occur under normal conditions.
<b>Chemical stability</b>	Stable at standard temperature and pressure. No stabilizers required to maintain chemical stability.
<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 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 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 primary skin irritant. May cause dry skin.
<b>Sensitization</b>	Not a sensitizer.
<b>Ingestion</b>	Harmful if swallowed. If a large quantity has been ingested, intestinal blockage and/or gastrointestinal irritation may result.
<b>Chronic Effects</b>	
<b>OSHA Carcinogen</b>	None Known
<b>Mutagenic Effects</b>	None Known
<b>Teratogenic Effects</b>	None Known
<b>Developmental Toxicity</b>	None Known
<b>Carcinogen Classifications</b>	No chemicals found in this mixture are listed under OSHA, IARC, and NTP.
<b>Numerical Measures of toxicity</b>	None Known

## 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

## 13. Disposal Considerations

Personal Protection	Refer to Section 8: "Recommendations for Personal Protective Measures" when disposing of waste.
Appropriate disposal containers	Standard waste disposal containers – no specials requirements.
Appropriate disposal methods	Disposal of this mixture 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.
Physical and chemical properties that may affect disposal	Waste should be placed in a sealed container or in a manner that reduces or eliminates the release of the product. Packaging should be recycled before disposal.
Sewage disposal	Do not dispose of into sinks or toilets. They will clog. Never dispose of this mixture into a sewer system.
Special precautions for landfills or incineration activities	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

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

TSCA – Toxic Substances Control Act - EPA	Chemicals in this mixture are listed in the TSCA Chemical Substance Inventory.
California Prop. 65	This mixture does not contain chemicals listed on the Proposition 65 list of carcinogens or reproductive toxicants.
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.

## Section 16. Other Information

### Definitions

OSHA means Occupational Safety & Health Administration

IARC means International Agency for Research on Cancer

NTP means National Toxicology Program

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

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)



# Safety Data Sheet

SDS prepared by Steve Davis of Aardvark Clay & Supplies

GHS – United States

This SDS is in compliance with The Globally Harmonized System of Classification and Labeling of Chemicals (GHS) – prepared Oct. 23, 2015. This data sheet is subject to change without notice.

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