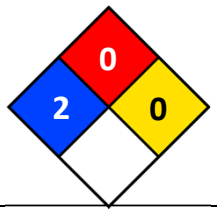
IMERYS Ceramics

**Date Prepared:** 04-Nov-2013
**Revised:** 18-Jan-2016
**KY Stone GHS 003**

**HMIS Ratings**

| | |
|---|---|
| Health Hazard | 2 |
| Fire Hazard | 0 |
| Reactivity Hazard | 0 |
| Max. Personal Protection | E |




# SAFETY DATA SHEET

TO COMPLY WITH OSHA HAZARD COMMUNICATION STANDARD 29 CFR.1910.1200 & THE GLOBALLY HARMONIZED SYSTEM OF CLASSIFICATION AND LABELLING OF CHEMICALS

## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

**Product trade name(s):** **Kentucky Stone**
**Common Name(s):** **Kaolinitic Clay, Ball Clay**
**Chemical Formula:** $Al_2Si_2O_5(OH)_4$
**CAS Number:** 999999-99-4
**Physical Form:** Light gray to brown solid

**Recommended Uses:** Non-exhaustive list: Ceramics, ceramic glazes, porcelain insulators, gypsum wallboard, ceiling tile, coal tar sealing emulsions

**Restrictions on Use:** Food ingredient, cosmetic ingredient, agricultural feed, pesticide

**Manufacturer's Name & Address:**
Kentucky-Tennessee Clay Company
100 Mansell Court East
Suite 300
Roswell, GA 30076

**Telephone:** 770-594-0660
**Fax:** 770-645-3460
**Customer Service:** 800-814-4538

**Emergency Telephone:** **For Chemical Emergency Call CHEMTREC (24 hours): 1-800-424-9300**
(US, Canada, Puerto Rico, Virgin Islands)
1-703-527-3887 (Outside Above Area) collect calls accepted

## SECTION 2: HAZARDS IDENTIFICATION

**Contains Crystalline Silica**

**Classification:** Specific Target Organ Toxicity - Repeated Exposure — Category 1 - Respiratory

**Label Elements:**

**Signal Word:**
**DANGER**

**Hazard Statements:** **H372**: Causes damage to lung through prolonged or repeated inhalation.

**Precautionary Statements:**
**P260:** Do not breathe dust.
**P285**: In case of inadequate ventilation wear respiratory protection.
**P501**: Dispose of contents/containers in accordance with local regulation.

## SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

| Ingredient | Weight % (Approx.) | CAS N° | EINECS N° |
|---|---|---|---|
| Kaolin | 60% - 90% | 1332-58-7 | 310-194-1 |
| Quartz - Crystalline Silica | 10% - 30% | 14808-60-7 | 238-878-4 |
| Titanium Dioxide | 1% - 5% | 13463-67-7 | 136-675-5 |
| Water | 1% - 20% | 7732-18-5 | 215-185-5 |

## SECTION 4: FIRST AID MEASURES

**Inhalation**

If adverse effects occur, get immediate medical attention. If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Give artificial respiration if needed.

**Skin**

Wash immediately with soap and water. Get medical attention if irritation develops or persists.

**Eyes**

Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.

**Ingestion**

DO NOT induce vomiting. If swallowed, drink plenty of water, do NOT induce vomiting. Never make an unconscious person vomit or drink fluids. Get medical attention.

**Symptoms: Immediate**

eye irritation, skin irritation, respiratory tract irritation

**Symptoms: Delayed**

gastrointestinal effects

## SECTION 5: FIREFIGHTING MEASURES

**Flammable Properties**

Product is non-flammable.
Use extinguishing agents appropriate for surrounding fire.

**Unsuitable Extinguishing Media**

None known.

**Protective Equipment and Precautions for Firefighters**

No hazard is expected from the normal use of this product.

**Fire Fighting Measures**

No hazard expected

**NFPA 704M Hazard Classification:** Health: 2 Flammable: 0 Reactivity: 0

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Personal Precautions**

Keep unnecessary people away, isolate hazard area and deny entry. Wet material is slippery under foot.
Wear personal protective clothing and equipment, see Section 8.

**Environmental Precautions**

Avoid release to the environment.

**Cleanup Methods**

Collect spilled material in appropriate container for reuse or disposal.

## SECTION 7: HANDLING AND STORAGE

**Precautions for Safe Handling**

Avoid dust generation and accumulation. Do not use in poorly ventilated or confined spaces. Do not taste or swallow. Avoid inhalation or contact. Wash thoroughly after handling.

**Conditions for Safe Storage**

Store in a cool, dry place. Store in a well-ventilated area.

## SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

**Exposure Guidelines:**

Follow standard occupational hygiene control methods and procedures. Use an approved respirator if exposure limits are exceeded or if exposure limits are limits are exceeded or if irritation develops or persists.

**Component Exposure Limits:**

| Hazardous Ingredient | Weight % (Approx.) | CAS N° | OSHA PEL* | ACGIH TLV* |
|---|---|---|---|---|
| Kaolin | 60% - 90% | 1332-58-7 | 15 mg/m$^3$ (Total Dust) 5 mg/m$^3$ (Respirable Fraction) | 2 mg/m$^3$ (Respirable Fraction) |
| Quartz - Crystalline Silica | 10% - 30% | 14808-60-7 | 0.1mg/m$^3$ (Respirable Fraction) | 0.025 mg/m$^3$ (Respirable Fraction) |
| Titanium Dioxide (Naturally Occurring) | 1% - 5% | 13463-67-7 | 15 mg/m$^3$ (Total Dust) | 10 mg/m$^3$ (Total Dust) |

* Unless otherwise noted, all PEL and TLV are reported as 8 hour time weighted average (TWA).

**Component Analysis**

There are no biological limit values for any of this product's components.

**Engineering Controls**

**Ventilation:** Use exhaust ventilation, if required, to maintain dust concentration below recommended exposure limits.

**PERSONAL PROTECTIVE EQUIPMENT**

**Respiratory Protection:** Where there is potential for airborne exposure, use of a MSHA/NIOSH or OSHA/NIOSH approved respirator is recommended.

**Eyes/Face:** Wear side shield safety glasses or chemical resistant safety goggles.

**Glove Recommendation:** Rubber gloves are recommended for prolonged exposure.

**Protective Clothing:** Wear appropriate chemical resistant clothing. Contaminated clothing should be removed and laundered before reuse.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

**Physical State:** Solid
**Color:** light gray to brown
**Odor:** earthy odor
**pH:** 4-6 (aqueous solution)
**Boiling Point:** Not applicable
**Decomposition:** loses crystalline water at > 500°C (930°F)
**LEL:** Not applicable
**Vapor Pressure:** Not applicable
**Density** Not applicable
**Water Solubility:** None
**Auto Ignition:** Will not ignite
**Flow Point:** Not applicable
**VOC:** None

**Appearance:** light gray to brown solid
**Physical Form:** powder to lump
**Odor Threshold:** Not applicable
**Melting Point:** > 1500°C
**Flash Point:** Will not ignite
**Evaporation Rate:** Not applicable
**UEL:** Not applicable
**Vapor Density (air = 1):** Not applicable
**Specific Gravity (water = 1):** ~2.6 gm/cc
**Coeff> Water/Oil Dist:** Not applicable
**Viscosity:** Not applicable
**Sublimation Point:** Not applicable

## SECTION 10: STABILITY AND REACTIVITY

**Reactivity:**
No reactive hazard is expected.

**Chemical Stability:**
Stable at normal temperatures and pressure

**Possibility of Hazardous Reactions:**
Will not oxidize or polymerize.

**Conditions to avoid:**
None known.

**Materials to Avoid (Incompatibilities):**
None known.

**Decomposition Products:**
When exposed to high temperatures, free quartz can change crystal structure to form tridymite (above 870°C) or cristobalite (above 1470°C) which have greater health hazards than quartz. (Tridymite and cristobalite (TWA-TLV) =0.025 mg/$m^3$.)

## SECTION 11: TOXICOLOGICAL INFORMATION

**Primary Route of Exposure:** Skin, Eye Contact, Inhalation and Ingestion

**Acute Health Hazards:**
Eye contact may cause mechanical irritation.
Skin contact may aggravate existing dermatitis.
Inhalation from prolonged and continuous exposure to excessive quantities of dust may aggravate existing asthmatic or respiratory conditions.

**Acute and Chronic Toxicity**
May cause eye irritation, skin irritation, respiratory tract irritation, and gastrointestinal tract irritation. May cause damage to respiratory tract through prolonged or repeated exposure.

Occupationally inhaled ball clay produced pulmonary fibrosis with sites of action being the lung, the lymph nodes and the hilus. Ball clay when taken orally over a long period of time can cause granulomas of the stomach.

Exposure to quartz (the most stable and common form of crystalline silica) is responsible for the majority of clinically diagnosed silicosis. Silicosis is a fibronodular lung disease that occurs after occupational exposure to crystalline silica for 5 years or longer. Inhalation of quartz dusts may cause shortness of breath, limitation of chest expansion, dry cough, and a lessened capacity for work. Individuals with a pre-existing disease in, or a history of ailments involving the skin or respiratory tract, are at greater risk for developing adverse health effects when exposed to this material.

In humans, chronic intermittent exposure to quartz caused pulmonary fibrosis, cough, and difficulty breathing. Overexposure to crystalline silica may cause silicosis, a form of disabling, progressive, and sometimes fatal pulmonary fibrosis characterized by the presence of typical nodulation in the lungs. Tuberculosis frequently complicates silicosis and the risk for tuberculosis is also increased in workers exposed to silica who have no radiographic evidence of silicosis. Crystalline silica can cause silicotic lesions in such organs as the liver, spleen and bone marrow. In humans, a causal relationship exists between exposure to crystalline silica and the development of autoimmune diseases. In multi-dose studies with animals, long term inhalation of quartz affected the lungs, endocrine system, immune system and blood.

This product contains quartz (respirable) as an impurity. Prolonged and/or massive exposure to respirable crystalline silica-containing dust may cause silicosis, a nodular pulmonary fibrosis caused by deposition in the lungs of fine respirable particles of crystalline silica. In 1997, IARC (the International Agency for Research on Cancer) concluded that crystalline silica inhaled from occupational sources can cause lung cancer in humans. However it pointed out that not all industrial circumstances, nor all crystalline silica types, were to be incriminated. (IARC Monographs on the evaluation of the carcinogenic risks of chemicals to humans, Silica, silicates dust and organic fibers, 1997, Vol. 68, IARC, Lyon, France.)

The material may contain trace amounts (parts per trillion) of naturally occurring dioxin congeners (PCDD, PCDF) including TCDD. 2, 3, 7,8. TCDD has been classified as a known human carcinogen by the IARC in Monograph 69 (1997). These trace amounts are not believed to be a health risk, but Special Protections and Special Precautions (Section 8) are advised.

IARC Monograph Vol. 69 (1997) concludes that 2,3,7,8–TCDD (dioxin) is carcinogenic to humans.
Methods of transmission may include inhalation, ingestion or dermal absorption.

**Component Analysis - LD50/LC50**

The components of this material have been reviewed in various sources and the following selected endpoints are published:

**Quartz - Crystalline Silica (14808-60-7)**
Oral LD50 Rat 500 mg/kg

**Titanium dioxide (13463-67-7)**
Oral LD50 >10000 mg/kg

**Water (7732-18-5)**
Oral LD50 Rat >90 mL/kg

**Irritation/Corrosivity Data**

May cause eye irritation, skin irritation, respiratory tract irritation, and gastrointestinal tract irritation.

**Respiratory Sensitizer**

No test data available

**Dermal Sensitizer**

No test data available

**Carcinogenicity**

**Component Carcinogenicity**

**Kaolin - CAS N° 1332-58-7**
**ACGIH:** A4 - Not Classifiable as a Human Carcinogen

**Quartz - Crystalline Silica - CAS N° 14808-60-7**
**ACGIH:** A2 - Suspected Human Carcinogen
**IARC:** Group 1 - Carcinogenic to humans

**Titanium dioxide - CAS N° 13463-67-7**
**ACGIH:** A4 - Not Classifiable as a Human Carcinogen
**IARC:** Group 2B - Possibly carcinogenic to humans

**Mutagenic Data**

No information available

**Reproductive Effects Data**

No information available

**Specific Organ Toxicity - Single Exposure**

Target organs include ears, skin, respiratory system, and gastrointestinal tract.

**Specific Organ Toxicity - Repeated Exposure**

Causes damage to eyes, skin, respiratory system, and gastrointestinal tract through prolonged or repeated exposure.

**Aspiration Hazard**

No data available

**Medical Conditions Aggravated by Exposure**

Individuals with pre-existing eye disorders, skin disorders, respiratory disorders and/or gastrointestinal disorders may have increased susceptibility to the effects of exposure.

## SECTION 12: ECOLOGICAL INFORMATION

**Ecotoxicity**

No information available for the product

**Component Analysis - Aquatic Toxicity**

No LOLI ecotoxicity data are available for this product's components

No information available for the product

**Bioaccumulation**

No information available for the product

**Bioconcentration**

This material is not believed to bioconcentrate

**Biodegradation**

This product is made from a naturally occurring, abundant, innocuous mineral

**Persistence**

This product is made from a naturally occurring, abundant, innocuous mineral

**Mobility in Soil:**

This product is insoluble in water

**Results of PBT and vPvB Assessment**

Not relevant

**Other Toxicity**

May affect turbidity if discharged in large quantities to lakes, streams or sewers.

## SECTION 13: DISPOSAL CONSIDERATIONS

**Non-hazardous waste -** RCRA (40 CFR 261)

Dispose of waste materials in accordance with all local, state, and Federal requirements.

This product may not be disposed of in waterways or sewers.

## SECTION 14: TRANSPORT INFORMATION

**EPA Waste Number:** Not regulated.
**DOT Classification:** Not regulated.
**IMO Classification:** Not regulated.
**Internal UN:** Not regulated.
**IMDG Code:** This product is not considered to be a marine pollutant.

## SECTION 15: REGULATORY INFORMATION

**SARA Title III Section 302 Extremely Hazardous Substances:** This product does not contain extremely hazardous subject to the reporting requirements of Section 302 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 355.

**SARA Title III Section 311 and 312 Health and Physical Hazard Categories per 40 CFR 370.2:**

| Immediate | Delayed | Fire | Pressure | Reactivity |
|---|---|---|---|---|
| Yes | Yes | No | No | No |

**SARA Section 313 Notification:** This product does not contain toxic chemicals 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.

**TSCA:** Product is listed in Initial Inventory, Vol. 1, Appendix A, CAS No. 1332-58-7

**CERCLA:** Ball Clay is not a CERCLA listed hazardous substance.

**California Proposition 65:** WARNING: This product may also contain extremely small amounts of one or more naturally-occurring materials known to the State of California to cause cancer, birth defects, or other reproductive harm.

**NJ Special Health Hazardous Substances List [4]:** RTK Hazardous Substance List; Substance number 4016.

**PA Special Hazardous Substances List:** Regulated under PA Code Chapter 323.

**Stockholm Convention:** This product is not subject to the Stockholm Convention.

**Montreal Protocol:** This product is not subject to the Montreal Protocol.

**Rotterdam Convention:** This product is not subject to the Rotterdam Convention.

**National Inventories:**

**DSL (Canada):** Listed
**NDSL (Canada):** Not Listed
**PICCS (Philippines):** Listed
**KECI (Korea):** Listed
**ENCS (MITI) (Japan):** Listed
**AICS (Australia):** Listed
**IECSC (China):** Listed
**EINECS (Europe):** Listed

**REACh Status:** Exempt (Annex v.7). Product is a naturally occurring mineral.

## SECTION 16: OTHER INFORMATION

**Training**

Workers must be informed of the presence of crystalline silica and trained in the proper use and handling of this product as required under applicable regulations.

**Summary of Changes**

New SDS 04-Nov-2013, Revised Section 2 01-Jun-2015, Revised Classification 18-Jan-2016

**Key / Legend**

| | |
|---|---|
| **ACGIH** | American Conference of Governmental Industrial Hygienists |
| **AICS** | Australian Inventory of Chemical Substances |
| **CAS** | Chemical Abstract Service |
| **CERCLA** | Comprehensive Environmental Response, Compensation and Liability Act |
| **CFR** | Code of Federal Regulations |
| **CHEMTREC** | Chemical Transportation Emergency Center |
| **DOT** | Department of Transportation |
| **DSL** | Canadian Domestic Substances List |
| **EINECS** | European Inventory of New and Existing Chemical Substances |
| **ENCS** | Existing and New Substances Inventory |
| **EPA** | Environmental Protection Agency |
| **FDA** | Food and Drug Administration |
| **HMIS** | Hazardous Materials Identification System |
| **IARC** | International Agency for Research on Cancer |
| **IECSC** | Inventory of Existing Chemical Substances Produced or Imported in China |
| **IMDG** | International Maritime Dangerous Goods Code |
| **IMO** | International Maritime Organization |
| **KECI** | Korean Existing Chemicals Inventory |
| **LEL** | Lower Explosive Limit |
| **LOLI** | List Of Lists |
| **MITI** | Japanese Ministry of international Trade and Industry |
| **MSHA** | Mine Safety and Health Administration |
| **NDSL** | Canadian Non-Domestic Substance List |
| **NIOSH** | National Institute of Occupational Safety and Health |
| **NFPA** | National Fire Protection Agency |
| **OSHA** | Occupational Health and Safety Administration |
| **PBT** | Persistent Bioaccumulative Toxic Chemical |
| **PEL** | Permissible Exposure Limit |
| **PICCS** | Philippine Inventory of Chemicals and Chemical Substances |
| **RCRA** | Resource Conservation and Recovery Act |
| **REACh** | Registration, Evaluation, Authorization and Restriction of Chemicals |
| **RTK** | Right to Know |
| **SARA** | Superfund Amendments and Reauthorization Act |
| **SDS** | Safety Data Sheet |
| **STOT** | Specific Target Organ Toxicity |
| **TLV** | Threshold Limit Value |
| **TSCA** | Toxic Substances Control Act |
| **TWA** | Time Weighted Average |
| **UEL** | Upper Explosive Limit |
| **UN** | United Nations |
| **VOC** | Volatile Organic Content |
| **vPvB** | Very Powerful Very Bioaccumulative |

**Disclaimer**

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END OF SHEET KY Stone GHS 003