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SAFETY DATA SHEET

The Safety Data Sheet is supplied as a service to you. For other related information, please visit:

<http://www.rayovac.com>

1. IDENTIFICATION

PRODUCT NAME: Alkaline Battery Mercury Free
 SIZES: All sizes
 EMERGENCY HOTLINE: 800-424-9300 (24 hr, Chemtrec)
 EDITION DATE: 07/01/2017

2. HAZARD IDENTIFICATION

We would like to inform our customers that these batteries are exempt articles and are not subject to the 29 CFR 1910.1200 OSHA requirements, Canadian WHMIS requirements or GHS requirements.

Emergency Overview

OSHA Hazards-not applicable
 Target Organs-not applicable
 GHS Classification-not applicable
 GHS Label Elements, including precautionary Statement-not applicable
 Pictogram-not applicable
 Signal words-not applicable
 Hazard statements-not applicable
 Precautionary statements-not applicable

3. COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT NAME	CAS #	%	TLV**/TWA
Manganese Dioxide	1313-13-9	32-38	C5.0 mg/m ³
Steel	7439-89-6	19-23	---
Zinc	7440-66-6	11-16	5 mg/m ³ (as ZnO Fume)
Potassium Hydroxide	1310-58-3	5-9	Solution Not Listed
Graphite	7782-42-5	3-5	15 mppcf
Barium Sulfate	7727-43-7	<5	15 mg/m ³
Water, paper, plastic, other	---	Balance	---

*Source: OSHA 29 CFR 1910.1000 Table Z-1, 2 or 3 11-01-2012

4. FIRST AID INFORMATION

THRESHOLD LIMIT VALUE (TLV) AND SOURCE: NA
EFFECTS OF OVEREXPOSURE: None in normal use
EMERGENCY FIRST AID PROCEDURES:

Skin and Eyes:

Do not pick up a shorting battery as it may cause a burn. Get immediate medical attention when eyes may have been exposed to battery contents from a ruptured battery. Wash skin with soap and water.

Swallowing:

If you or your doctor suspects that a battery has been ingested-for assistance in the US call the NATIONAL BATTERY INGESTION HOTLINE any time at (202) 625-3333; in Canada call 416-813-5900.

For more information, please visit:

<http://www.nema.org/Policy/Environmental-Stewardship/Documents/batteryingest.pdf>

5. FIRE FIGHTING MEASURES

FLASH POINT: NA
LOWER (LEL): NA
FLAMMABLE LIMITS IN AIR (%): NA
UPPER (UEL): NA
EXTINGUISHING MEDIA: Use water, foam, or dry powder as appropriate.
AUTO-IGNITION: NA

SPECIAL FIRE FIGHTING PROCEDURES: As with any fire, wear self-contained breathing apparatus to avoid inhalation of hazardous decomposition products (See section 2).

SPECIAL FIRE OR EXPLOSION HAZARDS: DO NOT RECHARGE. As a typical sealed battery they may rupture when exposed to excessive heat; this could result in the release of flammable or corrosive materials.

6. ACCIDENTAL RELEASE MEASURES

TO CONTAIN AND CLEAN UP LEAKS OR SPILLS: In the event of a battery rupture, prevent skin contact and collect all released material in a plastic lined metal container.

REPORTING PROCEDURE: Report all spills in accordance with Federal, State and Local reporting requirements.

7. HANDLING AND STORAGE

Store batteries in a dry place. Storing unpackaged cells together with other combustible materials could result in cell shorting and heat build-up. Do not recharge. Do not puncture or abuse.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

RESPIRATORY PROTECTION (SPECIFY TYPE): NA
VENTILATION: Local Exhaust: NA
Mechanical (General): NA
Special: NA
Other: NA
PROTECTIVE GLOVES: NA
EYE PROTECTION: NA
OTHER PROTECTIVE CLOTHING: NA

9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point @ 760 mm Hg (°C):	NA	Percent Volatile by Volume (%):	NA
Vapor Pressure (mm Hg @ 25°C):	NA	Evaporation Rate (Butyl Acetate = 1):	NA
Vapor Density (Air = 1):	NA	Physical State:	NA
Density (grams/cc):	NA	Solubility in Water (% by Weight):	NA
pH:	NA	Appearance and Odor:	Geometric solid object

10. STABILITY AND REACTIVITY

STABLE OR UNSTABLE: Stable
INCOMPATIBILITY (MATERIALS TO AVOID): NA
HAZARDOUS DECOMPOSITION PRODUCTS: NA
DECOMPOSITION TEMPERATURE (0°F): NA
HAZARDOUS POLYMERIZATION: Will Not Occur
CONDITIONS TO AVOID: Avoid electrical shorting, puncturing or deforming

11. TOXICOLOGICAL INFORMATION

INGREDIENT NAME	CAS #	%	TLV**/TWA
Manganese Dioxide	1313-13-9	32-38	C5.0 mg/m ³
Steel	7439-89-6	19-23	---
Zinc	7440-66-6	11-16	5 mg/m ³ (as ZnO Fume)
Potassium Hydroxide	1310-58-3	5-9	Solution Not Listed
Graphite	7782-42-5	3-5	15 mppcf
Barium Sulfate	7727-43-7	<5	15 mg/m ³
Water, paper, plastic, other	---	Balance	---

*Source: OSHA 29 CFR 1910.1000 Table Z-1, 2 or 3 11-01-2012

12. ECOLOGICAL INFORMATION

Consumers should dispose of discharged batteries through waste disposal services or legitimate collection outlets. Those collecting batteries should follow state and federal regulations. Partially discharged damaged batteries can overheat and cause fires in the presence of other combustible materials.

13. DISPOSAL CONSIDERATIONS

Always comply with Federal, state or local requirements. All Rayovac Alkaline batteries have been tested per Federal hazardous waste testing requirements (TCLP). The TCLP tests show Rayovac alkaline batteries are not hazardous waste.

<http://www.nema.org/Policy/Environmental-Stewardship/Documents/Companies%20Claiming%20to%20Recycle.MARCH2005.pdf>

14. TRANSPORTATION INFORMATION

TRANSPORTATION-SHIPPING: Alkaline Batteries are considered dry-cell batteries and they are non-dangerous goods for transportation. These batteries must be packed in a way to prevent short circuits or generation of a dangerous quantity of heat.

USDOT – See Special Provision 130.

IMO/Ocean – Not Listed.

ICAO/IATA – See Special Provision A123. This special provision also states to put the words “not restricted” and “special provision A123” on the air waybill when an air waybill is issued.

15. REGULATORY INFORMATION

SARA 313: Notification is not required because these products are article(s) that do not release a covered toxic chemical under the normal conditions of storage, use, or handling.

16. OTHER INFORMATION

The information and recommendations set forth are made in good faith and are believed to be accurate at the date of preparation. Spectrum Brands Inc. (Rayovac) makes no warranty expressed or implied.



Sodium Bicarbonate

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations
Revision Date: 03/12/2015 Date of issue: 03/12/2015 Supersedes Date: 03/09/2012

Version: 1.0

SECTION 1: IDENTIFICATION

Product Identifier

Product Form: Substance

Product Name: Sodium Bicarbonate

CAS No: 144-55-8

Formula: NaHCO₃

Synonyms: Baking Soda

Intended Use of the Product

Food Ingredient, Pharmaceutical, Household and Personal Care Product, Water Treatment, General Industrial Use.

Name, Address, and Telephone of the Responsible Party

Company

Church & Dwight

500 Charles Ewing Blvd

Ewing Township, NJ 08628

T 1-800-524-1328

www.churchdwight.com

Emergency Telephone Number

Emergency Number : For Medical Emergency: 1-888-234-1828, For Chemical Emergency: 1-800-424-9300 (CHEMTREC)

SECTION 2: HAZARDS IDENTIFICATION

The consumer variant of this product is labeled in accordance with regulations administered by the Consumer Product Safety Commission (CPSC) and the Food and Drug Administration (FDA). The use pattern and exposure in the workplace are generally not consistent with those experienced by consumers. The requirements of the Occupational Safety and Health Administration applicable to this SDS differ from the labeling requirements of the CPSC and FDA, and as a result, this SDS may contain additional health hazard information not pertinent to consumer use and not found on the product label.

Classification of the Substance or Mixture

Classification (GHS-US) Not classified

Label Elements

GHS-US Labeling No labeling applicable

Other Hazards Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions. Prolonged contact with dust can produce mechanical irritation.

Unknown Acute Toxicity (GHS-US) Not available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Substances

Name : Sodium Bicarbonate

CAS No : 144-55-8

Name	Product Identifier	% (w/w)	Classification (GHS-US)
Sodium bicarbonate	(CAS No) 144-55-8	100	Not classified

SECTION 4: FIRST AID MEASURES

Description of First Aid Measures

General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice.

Inhalation: When symptoms occur: go into open air and ventilate suspected area.

Skin Contact: Brush off loose particles from skin. Rinse immediately with plenty of water. Obtain medical attention if irritation develops or persists.

Eye Contact: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do so. Continue rinsing. Obtain medical attention if irritation persists.

Sodium Bicarbonate

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Ingestion: Rinse mouth. Do NOT induce vomiting. Seek medical attention if a large amount is swallowed.

Most Important Symptoms and Effects Both Acute and Delayed

General: None expected under normal conditions of use.

Inhalation: Prolonged inhalation of dust may cause respiratory irritation.

Skin Contact: Skin contact with large amounts of dust may cause mechanical irritation.

Eye Contact: Contact may cause irritation due to mechanical abrasion.

Ingestion: Large doses may produce systemic alkalosis and expansion in extracellular fluid volume with edema.

Chronic Symptoms: None expected under normal conditions of use.

Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing Media

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

Unsuitable Extinguishing Media: For surrounding fire: Use of heavy stream of water may spread fire.

Special Hazards Arising From the Substance or Mixture

Fire Hazard: NOT FLAMMABLE . Under fire conditions, hazardous fumes will be present.

Explosion Hazard: Product is not explosive.

Reactivity: Hazardous reactions will not occur under normal conditions.

Advice for Firefighters

Precautionary Measures Fire: Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe.

Firefighting Instructions: Exercise caution when fighting any chemical fire.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Hazardous Combustion Products: Carbon oxides (CO, CO₂). Sodium oxides.

Reference to Other Sections

Refer to section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Handle in accordance with good industrial hygiene and safety practice. Do not breathe dust or fumes. Avoid skin and eye contact.

For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Ventilate area.

Environmental Precautions

Prevent entry to sewers and public waters. Avoid release to the environment.

Methods and Material for Containment and Cleaning Up

For Containment: Contain and collect as any solid.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Avoid generation of dust during clean-up of spills. Keep in suitable, closed containers for disposal. Contact competent authorities after a spill.

Reference to Other Sections

See heading 8, Exposure Controls and Personal Protection.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling

Additional Hazards When Processed: When heated, material emits irritating fumes.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work.

Conditions for Safe Storage, Including Any Incompatibilities

Storage Conditions: Store in a dry, cool and well-ventilated place. Keep container closed when not in use.

Incompatible Materials: Acids. Water. Lime.

Storage Temperature: < 65 °C (150 °F)

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Specific End Use(s) Food Ingredient, Pharmaceutical, Water Treatment, General Industrial Use

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Particulates not otherwise classified (PNOC)		
USA ACGIH	ACGIH TWA (mg/m ³)	3 mg/m ³ Respirable fraction 10 mg/m ³ Total Dust
USA OSHA	OSHA PEL (TWA) (mg/m ³)	5 mg/m ³ Respirable fraction 15 mg/m ³ Total Dust
Alberta	OEL TWA (mg/m ³)	10 mg/m ³ (total)
British Columbia	OEL TWA (mg/m ³)	10 mg/m ³ (total dust)
Manitoba	OEL TWA (mg/m ³)	10 mg/m ³ (inhalable particles, recommended)
New Brunswick	OEL TWA (mg/m ³)	3 mg/m ³ (particulate matter containing no Asbestos and <1% Crystalline silica, respirable fraction)
Newfoundland & Labrador	OEL TWA (mg/m ³)	10 mg/m ³ (inhalable particles, recommended)
Nova Scotia	OEL TWA (mg/m ³)	10 mg/m ³ (inhalable particles, recommended)
Nunavut	OEL TWA (mg/m ³)	5 mg/m ³ (respirable mass)
Northwest Territories	OEL TWA (mg/m ³)	5 mg/m ³ (respirable mass)
Ontario	OEL TWA (mg/m ³)	10 mg/m ³ (inhalable)
Prince Edward Island	OEL TWA (mg/m ³)	10 mg/m ³ (inhalable particles, recommended)
Québec	VEMP (mg/m ³)	10 mg/m ³ (including dust, inert or nuisance particulates; containing no Asbestos and <1% Crystalline silica-total dust)
Saskatchewan	OEL STEL (mg/m ³)	20 mg/m ³ (insoluble or poorly soluble-inhalable fraction) 6 mg/m ³ (insoluble or poorly soluble-respirable fraction)
Saskatchewan	OEL TWA (mg/m ³)	10 mg/m ³ (insoluble or poorly soluble-inhalable fraction) 3 mg/m ³ (insoluble or poorly soluble-respirable fraction)

Exposure Controls

Appropriate Engineering Controls: For occupational/workplace settings: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.

Personal Protective Equipment: For occupational or bulk quantities: Gloves. Safety glasses. Dust formation: dust mask.



Materials for Protective Clothing: For occupational or bulk quantities: Chemically resistant materials and fabrics.

Hand Protection: For occupational or bulk quantities: Wear chemically resistant protective gloves.

Eye Protection: For occupational or bulk quantities: Chemical goggles or safety glasses.

Respiratory Protection: Use a NIOSH-approved respirator or self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.

Other Information: When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on Basic Physical and Chemical Properties

Physical State	: Solid
Appearance	: White, crystalline powder
Odor	: None
Odor Threshold	: Not available
pH	: 8.2 (1% Solution)
Evaporation Rate	: Not available
Melting Point	: Not available
Freezing Point	: Not available
Boiling Point	: Not available
Flash Point	: Not available

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Auto-ignition Temperature	: Not available
Decomposition Temperature	: Not available
Flammability (solid, gas)	: Not available
Upper/Lower Flammable Limit	: Not available
Vapor Pressure	: Not available
Relative Vapor Density at 20 °C	: Not available
Specific gravity / density	: 62 lb/ft ³
Specific Gravity	: Not available
Solubility	: Water: 8.6 g/100ml @ 20 °C (68 °F)
Partition Coefficient: N-octanol/water	: Not available
Viscosity	: Not available
Explosion Data – Sensitivity to Mechanical Impact	: Not expected to present an explosion hazard due to mechanical impact.
Explosion Data – Sensitivity to Static Discharge	: Not expected to present an explosion hazard due to static discharge.

SECTION 10: STABILITY AND REACTIVITY

Reactivity: Hazardous reactions will not occur under normal conditions.

Chemical Stability: Decomposes slowly on exposure to water (moisture).

Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

Conditions to Avoid: Exposure to moisture or moist air. Temperatures above 150°F (65 °C).

Incompatible Materials: Acids. Water. Lime.

Hazardous Decomposition Products: None known. At high temperature may liberate toxic gases.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on Toxicological Effects - Product

Acute Toxicity: Not classified

LD50 and LC50 Data:

Sodium Bicarbonate	
LD50 Oral Rat	7.3 g/kg
LC50 Inhalation Rat	> 4.7 mg/l/4h

Skin Corrosion/Irritation: Not classified [pH: 8.2 (1% Solution)]

Serious Eye Damage/Irritation: Not classified [pH: 8.2 (1% Solution)]

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Teratogenicity: Not classified

Carcinogenicity: Not classified

Specific Target Organ Toxicity (Repeated Exposure): Not classified

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): Not classified

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: Prolonged inhalation of dust may cause respiratory irritation.

Symptoms/Injuries After Skin Contact: Skin contact with large amounts of dust may cause mechanical irritation.

Symptoms/Injuries After Eye Contact: Contact may cause irritation due to mechanical abrasion.

Symptoms/Injuries After Ingestion: Large doses may produce systemic alkalosis and expansion in extracellular fluid volume with edema.

Chronic Symptoms: None expected under normal conditions of use.

SECTION 12: ECOLOGICAL INFORMATION

Toxicity No additional information available

Sodium Bicarbonate	
LC50 Fish 1	7100 mg/l Bluegill
EC50 Daphnia 1	4100 mg/l
LC 50 Fish 2	7700 mg/l Rainbow Trout
Sodium bicarbonate (144-55-8)	
LC50 Fish 1	8250 - 9000 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
EC50 Daphnia 1	2350 mg/l (Exposure time: 48 h - Species: Daphnia magna)

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Persistence and Degradability Not established

Bioaccumulative Potential Not established

Mobility in Soil Not available

Other Adverse Effects

Other Information: Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations.

SECTION 14: TRANSPORT INFORMATION

In Accordance with DOT Not regulated for transport

In Accordance with IMDG Not regulated for transport

In Accordance with IATA Not regulated for transport

In Accordance with TDG Not regulated for transport

SECTION 15: REGULATORY INFORMATION

US Federal & International Regulations

Sodium Bicarbonate (144-55-8)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on the Canadian DSL (Domestic Substances List)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

US State Regulations

Neither this product nor its chemical components appear on any US state lists.

Canadian Regulations

Sodium bicarbonate (144-55-8)

Listed on the Canadian DSL (Domestic Substances List)

WHMIS Classification	Uncontrolled product according to WHMIS classification criteria
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This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by CPR.

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision Date : 03/12/2015

Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

Party Responsible for the Preparation of This Document

Church & Dwight
500 Charles Ewing Blvd
Ewing Township, NJ 08628
T 1-800-524-1328

This Product Safety Data Sheet is offered solely for your information, consideration and investigation. Church & Dwight Co., Inc. provides no warranties; either expressed or implied, and assumes no responsibility for the accuracy or completeness of data contained herein. Church & Dwight Co., Inc. urges persons receiving this information to make their own determination as to the information suitability for their particular application.



SAFETY DATA SHEET

NON-HARDENING MODELING CLAY
Issue date: 11/14/2012

SDS ID: 00141112
Revision Date: ---

*** Section 1 – PRODUCT AND COMPANY IDENTIFICATION ***

Product Name: NON-HARDENING MODELING CLAY

SARGENT ART, INC

Phone: 1-800-424-3596

100 East Diamond Ave.
Hazleton, PA 18201
www.sargentart.com

Health Emergency – Call local Poison Control Center

Synonyms: Primary Assorted Modeling Clay; Pastel Assorted Modeling Clay;
Natural Assorted Modeling Clay; Earth Tone Assorted Modeling Clay;
Color of My Friends Assorted Modeling Clay; Primary Colors Modeling Clay;
Art-Time Assorted Modeling Clay.

Product Codes: 22-4400, 22-4005; 22-4007; 22-4009; 22-4044; 22-4000; 22-4002; 22-4014;
22-4020; 22-4029; 22-4030; 22-4042; 22-4050; 22-4066; 22-4084; 22-4085;
22-4088; 22-4096; 22-7600; 22-7630; 22-7666; 22-7684; 22-7688; 22-7696;
22-7700; 22-7730; 22-7766; 22-7784; 22-7788; 22-7796; 22-1100; 55-3300.

Product Use: Arts and Crafts

*** Section 2 – HAZARD(S) IDENTIFICATION ***

EMERGENCY OVERVIEW

Color: various colors
Physical Form: solid
Odor: odorless

POTENTIAL HEALTH EFFECTS

Inhalation: none
Skin Contact: none
Eye Contact: none
Ingestion: none

*** Section 3 – COMPOSITION / INFORMATION ON INGREDIENTS ***

CAS	Component	Percent	Symbol	Risk Phrase(s)
Not Available	Product has been certified as non-toxic by the US Board Certifies Toxicologist and Conforms to ASTM D-4236 standard practice for Labeling Art Materials for acute and chronic adverse health hazards.	100	---	---

*** Section 4 – FIRST AID MEASURES ***

Inhalation



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NON-HARDENING MODELING CLAY
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It is unlikely that emergency treatment will be required. Remove from exposure. Get medical attention, if needed.

Skin

It is unlikely that emergency treatment will be required. If adverse effects occur, wash with soap or mild detergent and large amounts of water. Get medical attention, if needed.

Eyes

It is unlikely that emergency treatment will be required. Wash with large amounts of water or normal saline until no evidence of chemical remains (at least 15-20 minutes). Get medical attention immediately.

Ingestion

Contact local poison control center or physician immediately.

*** Section 5 – FIRE FIGHTING MEASURES ***

See Section 9 for Flammability Properties

NFPA Ratings: Health: 1 Fire: 1 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Flammable Properties

Slight fire hazard.

Extinguishing Media

Regular dry chemical, carbon dioxide, water, regular foam

Fire Fighting Measures

Move container from fire area if it can be done without risk. Avoid inhalation of material or combustion by-products.

*** Section 6 – ACCIDENTAL RELEASE MEASURES ***

Occupational spill/release

Collect spilled material in appropriate container for disposal.

*** Section 7 – HANDLING AND STORAGE ***

Handling Procedures

Use methods to minimize dust.

Storage Procedures

Store and handle in accordance with all current regulations and standards. See original containers for storage recommendations. Keep separated from incompatible substances.

*** Section 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION ***

Component Exposure Limits

ACGIH and EU have not developed exposure limits for any of this product's components.

Ventilation

Based on available information, additional ventilation is not required.

PERSONAL PROTECTIVE EQUIPMENT

Eyes/Face

Eye protection not required under normal conditions.

Protective Clothing



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Protective clothing is not required under normal conditions.

Glove Recommendations

Protective gloves are not required under normal conditions.

Respiratory Protection

No respirator is required under normal conditions of use.

Under conditions of frequent use or heavy exposure, respiratory protection may be needed.

*** Section 9 – PHYSICAL AND CHEMICAL PROPERTIES ***

Appearance:	Solid	Flash Point:	Not available
Physical State:	Solid	Flammability:	Not available
Physical Form:	Solid	Vapor Pressure:	Not available
Color:	Assorted colors	Vapor Density (air=1):	Not available
Odor:	Odorless	Evaporation Rate:	Not available
Odor Threshold:	Not available	Specific Gravity:	Not available
pH:	Not available	Density:	Not available
Melting Point:	Not available	Water Solubility:	Not available
Freezing Point:	Not available	Coeff. Water/Oil Dist:	Not available
Boiling Point:	Not available	Volatility:	Not available
Viscosity:	Not available		

*** Section 10 – STABILITY AND REACTIVITY ***

Chemical Stability

Stable at normal temperatures and pressure.

Conditions to Avoid

None reported.

Materials to Avoid

Oxidizing materials.

Decomposition Products

Oxides of carbon.

Possibility of Hazardous Reactions

Will not polymerize.

*** Section 11 – TOXICOLOGICAL INFORMATION ***

Component Analysis – LD50/LC50

The components of this material have been reviewed in various sources and no selected endpoints have been identified.

RTECS Acute Toxicity (selected)

The components of this material have been reviewed and RTECS publishes no data as of the date on this document.

Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, or DFG.

RTECS Irritation

The components of this material have been reviewed and RTECS publishes no data as of the date on this document.



SAFETY DATA SHEET

NON-HARDENING MODELING CLAY
Issue date: 11/14/2012

SDS ID: 00141112
Revision Date: ---

*** Section 12 – ECOLOGICAL INFORMATION ***

Component Analysis – Aquatic Toxicity

No LOLI ecotoxicity data is available for this product's components.

*** Section 13 – DISPOSAL CONSIDERATION ***

Disposal Methods

Dispose in accordance with all applicable regulations.

Component Waste Numbers

The U.S. EPA has not published waste numbers for this product's components.

*** Section 14 – TRANSPORT INFORMATION ***

US DOT Information:	Not Regulated.
TDG Information:	Not Regulated.
ADR Information:	Not Regulated.
RID Information:	Not Regulated.
IATA Information:	Not Regulated.
ICAO Information:	Not Regulated.
IMDG Information:	Not Regulated.

*** Section 15 – REGULATORY INFORMATION ***

U.S. Federal Regulations

None of this products components are listed under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 311/312 (40 CFR 370.21), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), or require an OSHA process safety plan.

SARA Section 311/312 (40 CFR 370 Subparts B and C)

Acute Health: No Chronic Health: No Fire: No Pressure: No Reactive: No

U.S. State Regulations

None of this product's components are listed on the state lists from CA, MA, MN, NJ or PA.

Not regulated under California Proposition 65

Canada

This product has been classified in accordance with the criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

WHMIS CLASSIFICATION: Not a Controlled Product under Canada's Workplace Hazardous Material Information System.

Component Analysis – Inventory

No information is available.

*** Section 16 – OTHER INFORMATION ***



SAFETY DATA SHEET

NON-HARDENING MODELING CLAY
Issue date: 11/14/2012

SDS ID: 00141112
Revision Date: ---

Allergens:

This product do not contain common allergens such as latex, eggs, milk, wheat, gluten, soy, sunflower or other seeds, tree nuts, and peanuts.

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR – European Road Transport; AU – Australia; BOD – Biochemical Oxygen Demand; C – Celsius; CA – Canada; CAS – Chemical Abstracts Service; CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act; CN – China; CPR – Controlled Products Regulations; DFG – Deutsche Forschungsgemeinschaft; DOT – Department of Transportation; DSL – Domestic Substances List; EEC – European Economic Community; EINECS – European Inventory of Existing Commercial Chemical Substances; EPA – Environmental Protection Agency; EU – European Union; F – Fahrenheit; IARC – International Agency for Research on Cancer; IATA – International Air Transport Association; ICAO – International Civil Agency Organization; IDL – Ingredient Disclosure List; IDLH – Immediately Dangerous to Life and Health; IMDG – International Maritime Dangerous Goods; JP – Japan; Kow – Octanol/water partition coefficient; KR – Korea; LEL – Lower Explosive Limit; LOLI – List Of Lists – ChemADVIUSOR’s Regulatory Database; MAK – Maximum Concentration Value in the Workplace; MEL – Maximum Exposure Limits; NFPA – National Fire Protection Agency; NIOSH – National Institute for Occupational Safety and Health; NJTSR – New Jersey Trade Secret Registry; NTP – National Toxicology Program; NZ – New Zealand; OSHA – Occupational Safety and Health Administration; PH – Philippines; RCRA – Resource Conservation and Recovery Act; RID – European Rail Transport; RTECS – Registry of Toxic Effects of Chemical Substances; SARA – Superfund Amendments and Reauthorization Act; STEL – Short-term Exposure Limit; TDG – Transportation of Dangerous Goods; TSCA – Toxic Substances Control Act; TWA – Time Weighted Average; UEL – Upper Explosive Limit; US – United States.

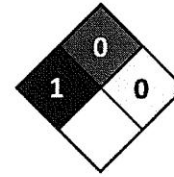
Disclaimer

This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.



Date Prepared: 04-Nov-2013
 Revised: New Issue
 No. 6 Tile_GHS_001

HMIS Ratings	
Health Hazard	1
Fire Hazard	0
Reactivity Hazard	0
Max. Personal Protection	E



SAFETY DATA SHEET

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product trade name(s): **No. 6 Tile**
Common Name(s): **Kaolin, China Clay, Hydrous Aluminum Silicate**
Chemical Formula: $Al_2Si_2O_5(OH)_4$
CAS Number: 1332-58-7
Physical Form: Light gray to white solid

Recommended Uses: Non-exhaustive list: Ceramics, ceramic glazes, refractories, fiberglass compositions, industrial filler, extender, for paper, rubber, plastics, caulks/adhesives, pesticides, sorbents, catalyst supports

Restrictions on Use: Food ingredient, cosmetic ingredient

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 - <1% Respirable

Classification:

Eye Damage/Irritation	Category 2
Skin Corrosion/Irritation	Category 2
Specific Target Organ Toxicity - Single Exposure	Category 3 - Respiratory
Specific Target Organ Toxicity - Repeated Exposure	Category 1 - Respiratory
Carcinogenicity	Category 1a

Label Elements:



Signal Word:
WARNING

Hazard Statements: **H373:** May cause 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.

SAFETY DATA SHEETProduct Name: **No. 6 Tile**
SDS ID: No. 6 Tile_GHS_001**SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS**

Ingredient	Weight % (Approx.)	CAS N°	EINECS N°
Kaolin	60% - 100%	1332-58-7	310-194-1
Quartz - Crystalline Silica	0.1% - 2%	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

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: 1 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.

SAFETY DATA SHEETProduct Name: **No. 6 Tile**
SDS ID: No. 6 Tile_GHS_001**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 irritation develops or persists.

Component Exposure Limits:

Hazardous Ingredient	Weight % (Approx.)	CAS N°	OSHA PEL*	ACGIH TLV*
Kaolin	60% - 100%	1332-58-7	15 mg/m ³ (Total Dust) 5 mg/m ³ (Respirable Fraction)	2 mg/m ³ (Respirable Fraction)
Quartz - Crystalline Silica (Respirable Fraction < 1%)	0.1% - 2%	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	Appearance: white to gray solid
Color: white to gray	Physical Form: powder to lump
Odor: earthy odor	Odor Threshold: Not applicable
pH: 4-6 (aqueous solution)	Melting Point: > 1500°C
Boiling Point: Not applicable	Flash Point: Will not ignite
Decomposition: loses crystalline water at > 500°C (930°F)	Evaporation Rate: Not applicable
LEL: Not applicable	UEL: Not applicable
Vapor Pressure: Not applicable	Vapor Density (air = 1): Not applicable
Density: Not applicable	Specific Gravity (water = 1): ~2.6 gm/cc
Water Solubility: None	Coeff> Water/Oil Dist: Not applicable
Auto Ignition: Will not ignite	Viscosity: Not applicable
Flow Point: Not applicable	Sublimation Point: Not applicable
VOC: None	

SAFETY DATA SHEETProduct Name: **No. 6 Tile**
SDS ID: No. 6 Tile_GHS_001**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/m³.)

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 kaolin produced pulmonary fibrosis with sites of action being the lung, the lymph nodes and the hilus. Kaolin 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.)

SAFETY DATA SHEETProduct Name: **No. 6 Tile**
SDS ID: No. 6 Tile_GHS_001**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

SAFETY DATA SHEET

Product Name: **No. 6 Tile**
SDS ID: No. 6 Tile_GHS_001

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.

SAFETY DATA SHEETProduct Name: **No. 6 Tile**
SDS ID: No. 6 Tile_GHS_001**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

FDA: Kaolin is generally recognized as safe (GRAS) under the FDA in accordance with 21 CFR 186.1256. Additionally, kaolin is established as a component of the uncoated or coated food contact surface of paper and paperboard in accordance with 21 CFR 176.170 (aqueous and fatty foods) and CFR 176.180 (dry foods).

CERCLA: Kaolin 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
KECL (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.

SAFETY DATA SHEETProduct Name: **No. 6 Tile**
SDS ID: No. 6 Tile_GHS_001**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

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

SAFETY DATA SHEET

Product Name: **No. 6 Tile**
SDS ID: No. 6 Tile_GHS_001

Disclaimer

Such information is to the best of IMERY'S knowledge and believed accurate and reliable as of the date indicated. However, no representation, warranty or guarantee is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use. IMERY'S NORTH AMERICA CERAMICS MAKES NO WARRANTY WITH RESPECT HERETO AND DISCLAIMS ALL LIABILITY FROM RELIANCE THEREON.

IMERY'S is a business name that includes Imerys North America Ceramics of which Kentucky-Tennessee Clay Company is a member. Registered in the USA. Registered office: 100 Mansell Court East, Suite 300, Roswell, GA 30076

Prepared By: Imerys North America Ceramics Technical Group.

END OF SHEET

No. 6 Tile_GHS_001

SAFETY DATA SHEET – JANUARY 3, 2018



Section 1 – Identification

Product Identifier:	Silica Sand
Trade Names:	Holliston Sand Products, Slater Farms Products
Product Uses:	Filtration Media, Foundry Sand, Industrial Fillers, Bio-retention and Agricultural Sand, Sports Turf, Recreational Products, Commercial Products, Traction Sand Not recommended for sand-blasting.
Manufacturer's Name:	Holliston Sand Company, Inc.
Manufacturer's Address	PO Box 1168, Slatersville, RI 02876
Manufacturer's Telephone	401.766.5010, Monday – Friday, 7:00am to 5:00pm
Manufacturer's Facsimile:	401.762.4976
Emergency Telephone	401.766.5010, Monday – Friday, 7:00am to 5:00pm

Section 2 – Hazards Identification

GHS – US Classification and Label Elements:

Health:

Category 1A – Carcinogen		
Category 1 - Specific Target Organ Toxicity (STOT) following repeated exposures		
Category 2B - Eye Irritation		
Signal Word (GHS-US) - DANGER		
GHS-US Labeling / Hazard Pictograms	 GHS08	 GHS07

Hazard Statements (GHS-US)

H335	May cause eye and respiratory irritation
H350	May cause cancer by inhalation
H372	Causes damage to organs through prolonged or repeated exposure by inhalation.

Precautionary Statements (GHS-US)

P202 – SDS - Read all safety precautions prior to handling.	P264 – Wash thoroughly after handling.
P308 / P313/P314/P304 – Call for medical attention if not well or uncomfortable. If inhaled, provide fresh air.	
P260 / P280 – Never breathe dust. Wear PPE prior to use.	P271 – Use in a well ventilated area.
P403 – Store properly. Closed container.	P501 – Dispose of according to local / regional regulations.

Section 3 – Composition

Name	Product Identifier	Percentage (%)	GHS-US Classification
Quartz	CAS #: 14808-60-7	85 – 99.9	Carc. 1A, H350, STOT SE 3, H335, STOT RE 1, H372

Section 4 – First Aid Measures

ANY SERIOUS INJURY OR UNCONSCIOUSNESS OBSERVATION SHOULD BE AN AUTOMATIC EMERGENCY CALL TO 911.

Inhalation – Move person to a clear area, provide fresh air. Provide medical or emergency attention.

Eye – Flush eye / eyes with water as needed. Provide medical attention as necessary.

Skin – Simple abrasions should be cleansed with mild soap and water. Provide medical attention as necessary.

Ingestion – Discomfort should be followed up with medical attention.

Signs and Symptoms of Exposure - Symptoms of silicosis may first appear 15 to 20 years after someone's exposure to crystalline silica. As the disease progresses, symptoms may include:

<i>Shortness of breath</i>	<i>Severe Cough</i>	<i>Weakness</i>
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If you have silica in your lungs, your body may not be able to fight infections well. This can lead to other illnesses that can cause.

<i>Chest Pains</i>	<i>Weight Loss</i>	<i>Night Sweats</i>
<i>Respiratory Failure</i>	<i>Fever</i>	

As the disease progresses over time, these symptoms can become worse. The symptoms of acute silicosis which can occur with exposures to very high concentrations of respirable crystalline silica over a very short time period, sometimes as short as six months, are the same as those associated with chronic silicosis. The symptoms of scleroderma, an autoimmune disease, include thickening and stiffness of the skin, particularly in the fingers, shortness of breath, difficulty swallowing and joint problems.

Section 5 – Fire Fighting Measures

Extinguishing Media:	Compatible with all media. Use appropriate media for surrounding fire.
Unusual Fire and Explosion Habits:	None known.
Special Fire Fighting Procedure:	None known. Not flammable. Use normal fire fighting equipment.
Hazardous Combustion Products:	None known.



Section 6 – Accidental Release Measures

- Personal precautions, protective equipment and emergency procedures
 - General measures.
 - Do not breathe dust. Avoid generation of dust during clean-up of spills. Recover the product by vacuuming, shoveling or sweeping. Vacuum must be fitted with HEPA filter to prevent release of particulates during clean-up. Use water to wet down clean up area to minimize particulate.
 - For non-emergency / emergency personnel.
 - Wear suitable protective clothing, gloves, eye and face protection. Use recommended respiratory protection. Collect as any solid.
- Environmental Precautions – no additional information available
- Methods and Material for Containment and Clean-up
 - Avoid generation of dust during clean-up of spills. Recover the product by vacuuming, shoveling or sweeping. Vacuum must be fitted with HEPA filter to prevent release of particulates during clean-up. Use water to wet down clean up area to minimize particulate.

Section 7 – Handling and Storage

- This product is not to be used for abrasive blasting without proper equipment and training. Do not breathe dust, which may be created during handling of this product.
- Engineering measures and good housekeeping are essential to preventing accumulation of silica dust in the workplace. Use adequate ventilation and dust collection systems.
- Testing can ensure engineering measures are sufficient. PPE is a solution until verification is established. Refer to Section 8 – Exposure Controls / Personal Protection for further information.
- Silica dust is not always visible in a form of a cloud. Use PPE.
- In accordance with OSHA's Hazard Communication Standard (29CFR 1910.12, 1915.99, 1917.28, 1918.90, 1926.59, 1928.21), state, and / or local right to know laws and regulations, familiarize your employees with this SDS and the information contained herein.
- Warn your employees, your customers and other third parties (in case of resale or distribution to others) of the potential health risks associated with the use of this product and train them in the appropriate use of PPE and engineering controls, which will reduce their risks of exposure.
- See ASTM International standard practice E1132-06, "Standard Practice for Health Requirements Relating to Occupational Exposure to Respirable Crystalline Silica."
- Store in a dry, cool place. Keep container tightly closed.

Section 8: Exposure Controls / Personal Protection

Control Parameters

Quartz (14808-60-7) – Occupational exposure limits (respirable fraction) in air for dust containing crystalline silica.		
USA ACGIH	ACGIH TWA (mg/m ³) {8 hour weighted average}	0.025 mg/m ³
USA IDLH	US IDLH (mg/m ³)	50 mg/m ³
USA NIOSH	NIOSH REL (TWA) (mg/m ³) {10 hour weighted average}	0.05 mg/m ³
USA MSHA/OSHA	MSHA/OSHA PEL (TWA) (mg/m ³) {8 hour weighted average} {Mineral Dust}	{30}/(%SiO ₂ +2) mg/m ³ – total dust {10}/(% SiO ₂ +2) mg/m ³ – respirable fraction

Occupational exposure limits in air for inert / nuisance dust.			
USA ACGIH	ACGIH TLV	3 mg/m ³	10mg/m ³
USA MSHA/OSHA	MSHA/OSHA PEL (As Inert or Nuisance Dust)	5 mg/m ³	15 mg/m ³

Exposure Controls

Engineering controls	Ensure adequate ventilation, especially in confined areas. Avoid dust production.
Personal protection equipment (PPE)	Use dust suits, protective goggles and respiratory protection in dusty areas. Self contained breathing apparatus is also a good option during dust production. Get training on the use of all PPE equipment. Respirator fit testing is mandatory. Contact NIOSH at 800.35.NIOSH, WWW.CDC.GOV/NIOSH
	Use impermeable gloves for hand protection.
	Use protective goggles for eye protection
	Use NIOSH approved respirators in areas containing airborne dust.
Hygiene	Always wash your hands after handling
Do not breathe dust. Use PPE. Research and engineer a solution for each application.	

California Inhalation Reference Exposure Limit (REL) as of 12/08: Crystalline silica (quartz, cristobalite, tridymite) is 3 ug/m ³ .
Canadian OEL:
<ul style="list-style-type: none"> • Canada Labour Code: 0.025 mg/m³ (respirable) • Alberta, British Columbia: 0.025 mg/m³ (respirable quartz and cristobalite) • Saskatchewan: 2 mg/m³ (respirable, amorphous: silica fume); 0.1 mg/m³ (respirable, amorphous: silica fused); 0.05 mg/m³ (respirable, cristobalite); 0.05 mg/m³ (respirable tridymite); 0.1 mg/m³ (respirable, quartz); 0.1 mg/m³ (respirable, tripoli) • Manitoba, Newfoundland, Prince Edward Island: 0.025 mg/m³ (respirable) • Ontario: 0.05 mg/m³ (respirable cristobalite, tridymite); 0.1 mg/m³ (quartz, tripoli); 0.1 mg/m³ (silica fused); 2 mg/m³ (silica fume) • Quebec: 0.05 mg/m³ (respirable, cristobalite, tridymite); 0.1 mg/m³ (quartz, tripoli) • New Brunswick: 0.1 mg/m³ (quartz); 0.05 mg/m³ (cristobalite) • Nova Scotia: 0.025 mg/m³ (quartz, cristobalite) • Yukon: 2 mg/m³ (respirable, amorphous); 300 particles/ml measured with a konimeter (quartz, and tripoli); 150 particles/ml measured with a konimeter (cristobalite and tridymite) • Northwest Territories, Nunavut: 2 mg/m³ (respirable, amorphous); 0.05 mg/m³ (respirable, cristobalite, tridymite, silica flour); 0.1 mg/m³ (respirable, fused silica, quartz, tripoli)
Austria OEL - Maximum concentration 0.15 mg/m ³
Japan OEL - Japan Society of Occupational Health Respirable crystalline silica 0.03 mg/m ³
Poland OEL TWA - 2 mg/m ³ (total inhalable dust, containing >50% free crystalline silica);
<ul style="list-style-type: none"> • 0.3 mg/m³ (respirable dust, containing >50% free crystalline silica); • 4.0 mg/m³ (total inhalable dust, containing 2% to 50% free crystalline silica); • 1.0 mg/m³ (respirable dust, containing 2% to 50% free crystalline silica)
United Kingdom OEL – 0.1 mg/m ³
Mexico – 0.1 mg/m ³ (quartz, inhalable)
<ul style="list-style-type: none"> • 0.05 mg/m³ (cristobalite, inhalable) • 0.05 mg/m³ (tridymite, inhalable) • 0.1 mg/m³ (tripoli containing respirable quartz powder, inhalable) • (Also refer to ACGIH)
Argentina – 0.05 mg/m ³ (quartz, respirable)
<ul style="list-style-type: none"> • 0.05 mg/m³ (cristobalite, respirable) • 0.05 mg/m³ (tridymite, respirable) • 0.1 mg/m³ (tripoli, respirable)

Section 9: Physical and chemical properties

Physical State / Appearance	Solid / Crystalline
Odor	None
Odor Threshold	No data available
Color	Natural
pH	No data available
Evaporation rate	No data available
Melting point	1710°C (3110°F)
Freezing point	No data available
Boiling point	2230°C (4046°F)
Flash point	No data available
Self ignition temperature	No data available



Decomposition temperature	No data available
Flammability (solid, gas)	Non-combustible solid
Vapour pressure	No data available
Relative vapour density at 20 °C	No data available
Relative density	No data available
Density	2.65 (approx.)
Solubility	Practically insoluble.
Log Pow	No data available
Log Kow	No data available
Viscosity	No data available
Explosive Limits	None known.
Oxidizing properties	None known.
Explosive limits	No data available

Section 10: Stability and Reactivity

Reactivity	None under normal conditions. Reactive with strong oxidizing agents.
Chemical / Thermal Stability	Chemically stable under normal temperature and pressure. Thermal instability occurs under high temperatures above 870°C (1598°F). It can change to crystalline silica such as tridymite and cristobalite.
Incompatible Materials	Avoid strong oxidizers such as fluorine, chlorine tri-fluoride, hydrogen fluoride, oxygen di-fluoride, hydrogen peroxide, acetylene, ammonia.
Hazardous Decomposition	Quartz (silica) will dissolve in hydrofluoric acid producing a corrosive gas, silicon tetra-fluoride.
Hazardous Polymerization	Not known to polymerize.

Section 11: Toxicological Information

Acute toxicity	Not classified	
Aspiration hazard	Not classified	
Skin Irritation	Not classified	
Eye Irritation	Not classified	
Respiratory or skin sensitization	Not classified	
Reproductive toxicity	Not classified	
Specific target organ toxicity (single exposure)	Not classified	
Specific target organ toxicity (repeated exposure)	Causes damage to organs (lung/respiratory system) through prolonged or repeated exposure (inhalation)	
Germ cell mutagenicity	Not classified	
Carcinogenicity	May cause cancer - inhalation	
Quartz (14808-60-7)	IARC Group – Group 1	National Toxicity Program (NTP) Status: Known Human Carcinogen
Silica – All grades (14808-60-7)	Repeated or prolonged exposure to respirable crystalline silica dust will 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.	



Section 12: Ecological Information

Crystalline silica is not known to be eco-toxic, not readily biodegradable and not expected to bio-accumulate.

Section 13: Disposal Considerations

AS SOLD, our crystalline silica (quartz) products are not considered hazardous waste under the Resource Conservation and Recovery Act, or its regulations, 40 CFR 261 et seq. Dispose according to applicable local, state and federal regulations.

Section 14: Transport Information

Crystalline silica (quartz) is not a hazardous material for purposes of transportation under the U. S. Department of Transportation Table of Hazardous Materials, 49 CFR §172.101, and Transportation of Dangerous Goods Regulations in the European Union, Canada, Argentina, Republic of Uzbekistan and Japan. Consult applicable international, national, state, provincial or local laws. In accordance with DOT / TDG / ADR / RID / ADNR / IMDG / ACO / IATA, crystalline silica is not a dangerous product in the sense of transport regulations.

Section 15: Regulatory Information

US Federal Regulations	Silica / Quartz 14808-60-7	Immediate health hazard - acute Delayed health hazard – chronic.	On US TSCA (Toxic Substances Control Act) inventory listing.
Canada Regulations		WHMIS Classification. Class D Division 2 Subdivision A – Very toxic material causing other toxic effects.	
International Info		IARC (International Agency for Research on Cancer) listing.	NTP (National Toxicology Program) specifies as a carcinogen.
U State Regulations		See below.	
U.S. - California - Proposition 65 - Carcinogens List . This product contains Quartz, a substance known to the state of California to cause cancer. U.S. - Hawaii - Occupational Exposure Limits - TWAs U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Emission Levels (ELs) U.S. - Idaho - Occupational Exposure Limits - Mineral Dusts U.S. - Illinois - Toxic Air Contaminant Carcinogens U.S. - Maine - Chemicals of High Concern U.S. - Massachusetts - Right To Know List U.S. - Michigan - Occupational Exposure Limits - TWAs U.S. - Minnesota - Chemicals of High Concern U.S. - Minnesota - Hazardous Substance List U.S. - Minnesota - Permissible Exposure Limits - TWAs U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - New Jersey - Special Health Hazards Substances List U.S. - Oregon - Permissible Exposure Limits - Mineral Dusts U.S. - Pennsylvania - RTK (Right to Know) List U.S. - Tennessee - Occupational Exposure Limits - TWAs U.S. - Texas - Effects Screening Levels - Long Term U.S. - Texas - Effects Screening Levels - Short Term U.S. - Vermont - Permissible Exposure Limits - TWAs U.S. - Washington - Permissible Exposure Limits - STELs U.S. - Washington - Permissible Exposure Limits - TWAs			



Section 16 – Other Information

NFPA

Health Hazard	2 – intense or continued exposure could cause temporary or incapacitation or possible residual injury unless prompt medical attention is given	
Fire Hazard	0 – materials that will not burn	
Reactivity	0 – normally stable, even under fire exposure conditions, are not reactive with water	

HMIS III Rating

Health	2 - moderate hazard, temporary injury may occur
Flammability	0 – minimal hazard
Physical	0 – minimal hazard
Personal Protection	All equipment required plus engineering measures.

Definitions

Carc. 1A	Carcinogenicity Category 1A
STOT RE 1	Specific target organ toxicity (repeated exposure) Category 1
STOT SE 3	Specific target organ toxicity (single exposure) Category 3

User's Responsibility: The OSHA Hazard Communication Standard 29 CFR 1910.1200 requires that this SDS be made available to your employees who handle or may be exposed to this product. Educate and train your employees regarding applicable precautions. Instruct your employees to handle this product properly.

Disclaimer: The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for one's own particular use. Since the actual use of the product described herein is beyond our control, Holliston Sand company, Inc., assumes no liability arising out of the use of the product by others. Appropriate warnings and safe handling procedures should be provided to handlers and users.

More information on the effects of crystalline silica exposure may be obtained from OSHA website: <http://www.osha.gov> or from NIOSH website: <http://www.cdc.gov/niosh>.

