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[www.deltaeducation.com](http://www.deltaeducation.com)

Dear Educator,

This file contains the Safety Data Sheets (SDS) for FOSS SOILS, ROCKS AND LANDFORMS, NEXT GENERATION as of July 24, 2017.

Because kit contents can sometimes be replaced, we recommend searching our online portal of SDS for current sheets as you need them. To make that searching easier, we have provided a listing below of the items with SDS in this kit.

Portal: <http://www.schoolspecialty.com/sds>

<b>Part Number to Search</b>	<b>Item Description</b>
032-3168	Clay, powdered, gray
030-4920	Clay, powdered, white (for stream table)

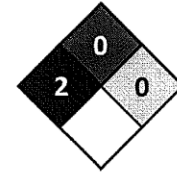
Note: The part numbers to search for in the portal are often not the same part numbers used to order replacements. To order replacements, please visit [www.deltaeducation.com/refillcenter](http://www.deltaeducation.com/refillcenter)

If you have any questions, please contact Customer Care at 800-258-1302 for assistance.



**Date Prepared:** 04-Nov-2013  
**Revised:** New Issue  
**SDS ID:** TN #5\_GHS\_001

HMIS Ratings	
Health Hazard	2
Fire Hazard	0
Reactivity Hazard	0
Max. Personal Protection	E



**SAFETY DATA SHEET**

**SECTION 1: PRODUCT AND COMPANY IDENTIFICATION**

**Product trade name(s):** Tennessee #5  
**Common Name(s):** Ball Clay, Kaolinic Clay  
**Chemical Formula:** Al<sub>2</sub>Si<sub>2</sub>O<sub>5</sub>(OH)<sub>4</sub>  
**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  $\geq 1\%$   $\leq 10\%$  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 SHEET**Product Name: **Tennessee #5**  
SDS ID: TN #5\_GHS\_001**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

**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.

**SAFETY DATA SHEET**

Product Name: **Tennessee #5**  
 SDS ID: TN #5\_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 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% - 90%	1332-58-7	15 mg/m <sup>3</sup> (Total Dust) 5 mg/m <sup>3</sup> (Respirable Fraction)	2 mg/m <sup>3</sup> (Respirable Fraction)
Quartz - Crystalline Silica (Respirable Fraction 1-10%)	10% - 30%	14808-60-7	0.1mg/m <sup>3</sup> (Respirable Fraction)	0.025 mg/m <sup>3</sup> (Respirable Fraction)
Titanium Dioxide (Naturally Occurring)	1% - 5%	13463-67-7	15 mg/m <sup>3</sup> (Total Dust)	10 mg/m <sup>3</sup> (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

**SAFETY DATA SHEET**Product Name: **Tennessee #5**  
SDS ID: TN #5\_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/m<sup>3</sup>.)

**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.

**SAFETY DATA SHEET**Product Name: **Tennessee #5**  
SDS ID: **TN #5\_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 &gt;10000 mg/kg

**Water (7732-18-5)**

Oral LD50 Rat &gt;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.

**SAFETY DATA SHEET**

Product Name: **Tennessee #5**  
SDS ID: TN #5\_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 SHEET**

Product Name: **Tennessee #5**  
SDS ID: **TN #5\_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:**

<b>Immediate</b>	<b>Delayed</b>	<b>Fire</b>	<b>Pressure</b>	<b>Reactivity</b>
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.



**SAFETY DATA SHEET**Product Name: **Tennessee #5**  
SDS ID: TN #5\_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: **Tennessee #5**  
SDS ID: **TN #5\_GHS\_001**

**Disclaimer**

Such information is to the best of IMERYS 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. IMERYS NORTH AMERICA CERAMICS MAKES NO WARRANTY WITH RESPECT HERETO AND DISCLAIMS ALL LIABILITY FROM RELIANCE THEREON.

IMERYS 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.

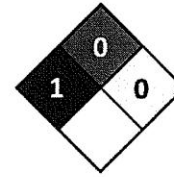
END OF SHEET

TN #5\_GHS\_001



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**

<b>Classification:</b>	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 SHEET**Product 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 SHEET**Product 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 <sup>3</sup> (Total Dust) 5 mg/m <sup>3</sup> (Respirable Fraction)	2 mg/m <sup>3</sup> (Respirable Fraction)
Quartz - Crystalline Silica (Respirable Fraction < 1%)	0.1% - 2%	14808-60-7	0.1mg/m <sup>3</sup> (Respirable Fraction)	0.025 mg/m <sup>3</sup> (Respirable Fraction)
Titanium Dioxide (Naturally Occurring)	1% - 5%	13463-67-7	15 mg/m <sup>3</sup> (Total Dust)	10 mg/m <sup>3</sup> (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**

<b>Physical State:</b> Solid	<b>Appearance:</b> white to gray solid
<b>Color:</b> white to gray	<b>Physical Form:</b> powder to lump
<b>Odor:</b> earthy odor	<b>Odor Threshold:</b> Not applicable
<b>pH:</b> 4-6 (aqueous solution)	<b>Melting Point:</b> > 1500°C
<b>Boiling Point:</b> Not applicable	<b>Flash Point:</b> Will not ignite
<b>Decomposition:</b> loses crystalline water at > 500°C (930°F)	<b>Evaporation Rate:</b> Not applicable
<b>LEL:</b> Not applicable	<b>UEL:</b> Not applicable
<b>Vapor Pressure:</b> Not applicable	<b>Vapor Density (air = 1):</b> Not applicable
<b>Density:</b> Not applicable	<b>Specific Gravity (water = 1):</b> ~2.6 gm/cc
<b>Water Solubility:</b> None	<b>Coeff&gt; Water/Oil Dist:</b> Not applicable
<b>Auto Ignition:</b> Will not ignite	<b>Viscosity:</b> Not applicable
<b>Flow Point:</b> Not applicable	<b>Sublimation Point:</b> Not applicable
<b>VOC:</b> None	

**SAFETY DATA SHEET**Product 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/m<sup>3</sup>.)

**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 SHEET**Product 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 &gt;10000 mg/kg

**Water (7732-18-5)**

Oral LD50 Rat &gt;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**  
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**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 SHEET**Product 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 SHEET**Product 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.

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**Prepared By:** Imerys North America Ceramics Technical Group.

END OF SHEET

No. 6 Tile\_GHS\_001