Post Apple Scientific, inc. Safety Data Sheet - Aluminum Potassium Sulfate

SDS #: C1400-C1411

Revision Date: April 10, 2015

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Aluminum Potassium Sulfate

SECTION 2 — HAZARDS IDENTIFICATION

Standard. Treat all laboratory chemicals with caution.

possible. Prudent laboratory practices should be observed.

Post Apple Scientific, inc., 8893 Gulf Rd., North East, PA 16428 814-725-3330

CHEMTREC Emergency Phone Number: (800) 424-9300

Pictograms Signal Word N/A This chemical is considered nonhazardous according to GHS classifications for the Hazard Communication Although this material is considered to be nonhazardous, unpredictable reactions among chemicals are always

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Aluminum potassium sulfate	7784-24-9	AIK(SO ₄) ₂ •12H ₂ O	474.39	
Synonym: Alum				

SECTION 4 - FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell.

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing. If on skin: Wash with plenty of water.

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 - FIRE FIGHTING MEASURES

Nonflammable, noncombustible solid.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE None

established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Ventilate area. Wipe up the spill, place in a sealed bag or container, and dispose. Wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

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SECTION 7 — HANDLING AND STORAGE

Store with acetates, halides, sulfates, sulfates, thiosulfates and phosphates. Store in a cool, dry place.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection. Wash hands thoroughly after handling.

SECTION 9 -- PHYSICAL AND CHEMICAL PROPERTIES

White, crystalline powder. Odorless. Soluble: Water. Insoluble in alcohol. Melting point: 92.5 °C Specific gravity: 1.7

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with strong oxidizers, bases, steel, aluminum, copper, and zinc. When heated to decomposition (200 °C), emits toxic sulfur trioxide fumes.

Shelf life: Indefinite, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Irritant, gastrointestinal disturbances.

Chronic effects: N.A. Target organs: N.A. ORL-RAT LD₅₀; N.A. IHL-RAT LC₅₀; N.A. SKN-RBT LD₅₀; N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 --- REGULATORY INFORMATION

TSCA-listed, EINECS-listed (233-141-3).

SECTION 16 - OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Post Apple Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandatuse, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Post Apple Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

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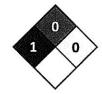
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Date Prepared: 04-Nov-2013 Revised: New Issue No. 6 Tile_GHS_001

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:

Al₂Si₂O₅(OH)₄

CAS Number: Physical Form: 1332-58-7 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

Telephone:

770-594-0660

100 Mansell Court East

Fax:

770-645-3460

Suite 300

Customer Service:

800-814-4538

Roswell, GA 30076

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 Skin Corrosion/Irritation Category 2

Specific Target Organ Toxicity - Single Exposure

Category 2 Category 3 - Respiratory

Specific Target Organ Toxicity - Repeated Exposure

Category 1 - Respiratory

Category 1a

Label Elements:



Carcinogenicity

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.

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Product Name: No SDS ID: No

No. 6 Tile 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.

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 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 exposure limits are exceeded or if irritation develops or persists.

Component Exposure Limits:

Hazardous Ingredient	Weight % (Approx.)	CAS Nº	OSHA PEL*	ACGIH TLV*
Kaolin	60% - 100%	1332-58-7	15 mg/m³ (Total Dust) 5 mg/m³ (Respirable Fraction)	2 mg/m³ (Respirable Fraction)
Quartz - Crystalline Silica (Respirable Fraction < 1%)	0.1% - 2%	14808-60-7	0.1mg/m³ (Respirable Fraction)	0.025 mg/m³ (Respirable Fraction)
Titanium Dioxide (Naturally Occurring)	1% - 5%	13463-67-7	15 mg/m³ (Total Dust)	10 mg/m ³ (Total Dust)

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

Component Analysis

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

Engineering Controls

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

PERSONAL PROTECTIVE EQUIPMENT

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

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

Glove Recommendation: Rubber gloves are recommended for prolonged exposure.

Protective Clothing: Wear appropriate chemical resistant clothing. Contaminated clothing should be removed and

laundered before reuse.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Solid

Color: white to gray
Odor: earthy odor
pH: 4-6 (aqueous solution)

Boiling Point: Not applicable
Decomposition: loses crystalline water at > 500°C (930°F)

Appearance: white to gray solid
Physical Form: powder to lump
Odor Threshold: Not applicable
Melting Point: > 1500°C
Flash Point: Will not ignite
Evaporation Rate: Not applicable

LEL: Not applicable
Vapor Pressure: Not applicable
Density Not applicable
Density Not applicable
Water Solubility: None

UEL: Not applicable
Vapor Density (air = 1): Not applicable
Specific Gravity (water = 1): ~2.6 gm/cc
Coeff> Water/Oil Dist: Not applicable

Auto Ignition: Will not ignite Viscosity: Not applicable
Flow Point: Not applicable Sublimation Point: Not applicable

VOC: None

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/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.)

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 >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 Nº 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

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.

Product Name: SDS ID: No. 6 Tile

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 No Pressure

Reactivity

Yes

Yes

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.

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

Product Name:

No. 6 Tile

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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.

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Prepared By: Imerys North America Ceramics Technical Group.

END OF SHEET

No. 6 Tile_GHS_001

5/25/2015

MATERIAL NAME: SANDTASTIK PLAY SAND

SECTION I - IDENTIFICATION

Material Name

SANDTASTIK PLAY SAND

Product Number PLAY SAND

Manufacturer Information

Sandtastik Products Ltd 58 Prosperity Avenue Port Colborne, ON L3K 5X9 P: (800) 845-3845 F: (800) 831-6111 E: office@sandtastik.com

Emergency Phone Number: 800-845-3845 Poison Control Center: 1-888-516-2502

SECTION II - HAZARDS IDENTIFICATION

Classification in accordance with paragraph (d) of 29 CFR 1910.1200.

There are no GHS label elements.

PRIMARY ROUTES OF ENTRY: EYE, SKIN, INGESTION

EFFECTS AND SYMPTOMS OF ACUTE EXPOSURE: NONE EXPECTED

EFFECTS AND SYMPTOMS OF CHRONIC EXPOSURE: NONE EXPECTED

CARCINOGEN LISTING: NTP: NO IARC: NO OSHA: NO

SEE SECTION III FOR COMPONENTS AFFECTED

MEDICAL CONDITIONS USUALLY AGGRAVATED BY OVER EXPOSURE TO THIS PRODUCT: NONE

SECTION III - COMPOSITION / INFORMATION ON INGREDIENTS

DET /TI V

Mov

		FEL/ILV	Max		
Ingredient	CAS#	(MG/M#)	% Weight	NTP	IARC

None

SECTION IV - FIRST AID MEASURES

FIRST AID MEASURES: NONE REQUIRED. NO ACUTE HEALTH EFFECTS EXPECTED.

SECTION V - FIRE FIGHTING MEASURES

FLASH POINT (METHOD): N/A

EXPLOSION LIMITS IN AIR (% BY VOLUME): NOT EXPLOSIVE

EXTINGUISHING MEDIA: NO SPECIAL MEDIA REQUIRED

FIRE FIGHTING PROCEDURES: NO SPECIAL FIRE FIGHTING PROCEDURES REQUIRED

UNUSUAL FIRE & EXPLOSION HAZARDS: NOT COMBUSTIBLE

SECTION VI - ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE A MATERIAL IS SPILLED: Clean up in accordance with all applicable regulations. Absorb spillage with non-combustible, absorbent material. For waste disposal, see Section XIII

SECTION VII - HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN DURING STORAGE AND HANDLING: Good industrial hygiene practice requires that exposure be maintained below the TLV. This is preferably achieved through the provision of adequate ventilation. When exposure cannot be adequately controlled in this way, personal respiratory protection should be employed.

SECTION VIII - EXPOSURE CONTROLS / PERSONAL PROTECTION

RESPIRATORY PROTECTION AND SPECIAL VENTILATION REQUIREMENTS: NONE REQUIRED OTHER PROTECTIVE EQUIPMENT (GLOVES, GOGGLES, ETC): NONE REQUIRED WORK/HYGIENE PRACTICES: NONE REQUIRED ENGINEERING CONTROLS: NONE REQUIRED

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: N/A
VAPOR PRESSURE: N/A
SPECIFIC VAPOR DENSITY (AIR=1): N/A
SOLUBILITY IN WATER: N/A
REACTIVITY IN WATER: NON-REACTIVE

SECTION X - STABILITY AND REACTIVITY

HAZARDOUS POLYMERIZATION PRODUCTS: NONE STABILITY: STABLE CONDITIONS TO AVOID: NONE INCOMPATIBILITY (MATERIALS TO AVOID): NONE HAZARDOUS DECOMPOSITION PRODUCTS: NONE

SECTION XI - TOXICOLOGICAL INFORMATION

ACUTE EFFECTS ASSOCIATED WITH USE OF THIS MATERIAL: NONE EXPECTED The summated LD50 is >50000 mg/kg.

The summated LC50 is 99999 mg/cubic meter.

This product is not considered to be a known or suspected human carcinogen by NTP, IAPC or

This product is not considered to be a known or suspected human carcinogen by NTP, IARC or OSHA (see section III)

SECTION XII - ECOLOGICAL INFORMATION

NO HARMFUL EFFECTS KNOWN OTHER THAN THOSE ASSOCIATED WITH SUSPENDED INERT SOLIDS IN WATER.

SECTION XIII - DISPOSAL CONSIDERATIONS

RCRA HAZARD CLASS (40 CFR 261): THIS PRODUCT IS NOT CLASSIFIED AS A HAZARDOUS WASTE. WASTE DISPOSAL METHOD: DISPOSE OF IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.

SECTION XIV - TRANSPORTATION INFORMATION

U.S. DOT (49 CFR 172.101): THIS IS NOT A HAZARDOUS MATERIAL AS CLASSIFIED BY CFR 172.101.

SECTION XV - REGULATORY INFORMATION

CONTENTS OF THIS SDS COMPLY WITH OSHA HAZARD COMMUNICATION STANDARD 29 CFR 1910.1200 EPA SARA TITLE III CHEMICAL LISTINGS NONE

SECTION 302.4 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355): NONE

SECTION 313 TOXIC CHEMICALS (40 CFR 372): NONE

INTERNATIONAL REGULATIONS

CANADIAN WHMIS: THIS PRODUCT IS A CONTROLLED PRODUCT UNDER CANADA'S WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM. IT CONTAINS THE FOLLOWING TOXIC OR HIGHLY TOXIC MATERIALS: COPPER PHTHALOCYANINE IRON OXIDE

SUPPLEMENTAL STATE COMPLIANCE INFORMATION:

THIS PRODUCT CONTAINS THE FOLLOWING CHEMICAL(S) LISTED UNDER NEW JERSEY'S RIGHT TO KNOW PROGRAM: IRON OXIDE

THIS PRODUCT CONTAINS THE FOLLOWING CHEMICAL(S) REQUIRING NOTIFICATION TO THE STATE OF WASHINGTON UNDER THEIR CHILDREN'S SAFE PRODUCTS ACT: NONE

Under CPSC's consumer product regulations (16CFR1500.3 and 150014), this product has the following required acute and chronic hazard labeling:

NONE

SECTION XVI - OTHER INFORMATION

LAST REVISION DATE: 05/22/2015

Prepared by Duke OEM Toxicology

COLOR INFORMATION

THIS SDS APPLIES TO THE FOLLOWING COLORS WHICH ARE ASSOCIATED WITH HAZARDOUS AND/OR NON-HAZARDOUS INGREDIENTS

Product Color	SKU	Hazardous Ingredient
NATURAL WHITE		(NONE)

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	See	
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:

Shortness of breath	Severe Cough	Weakness

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.

Chest Pains	Weight Loss	Night Sweats
Respiratory Failure	Fever	

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.
 - o For non-emergency / emergency personnel,
 - Wear suitable protective ciothing, 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 (respir	able fraction) in air for dust containing crystalline
silica.		
USA ACGIH	ACGIH TWA (mg/m³) (8 hour weighted average)	0.025 mg/m ³
USA IDLH	US IDLH (mg/m²)	50 mg/m³
usa niosh	NIOSH REL (TWA) (mg/m³) (10 hour weighted average)	0.05 mg/m ³
usa msha/osha	MSHA/OSHA PEL (TWA) (mg/m³) (8 hour weighted average) (Mineral Dust)	$(30)/(\%SiO_2 + 2) \text{ mg/m}^3 - \text{total dust}$ $(10)/(\% SiO_2 + 2) \text{ mg/m}^3 - \text{respirable fraction}$

USA ACGIH	ACGIH TLV	3 mg/m³	10mg/m ³
usa msha/osha	MSHA/OSHA PEL (As Inert or Nuisance Dust)	5 mg/m³	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

California Inhalation Reference Exposure Limit (REL) as of 12/08: Crystalline silica (quartz, cristobalite, tridymite) is 3 ug/m³. Canadian OEL:

- Canada Labour Code: 0,025 mg/m³ (respirable)
 - Alberta, British Columbia: 0.025 mg/m³ (respirable quartz and cristobalite)
 - Saskatchewen: 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/m³

Japan OEL - Japan Society of Occupational Health Respirable crystalline silica 0.03 mg/m³

Poland OEL TWA -2 mg/m³ (total inhalable dust, containing >50% free crystalline silica);

- 0.3 mg/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/m³

Mexico − 0.1 mg/m³ (quartz, inhalable)

- 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/m³ (quartz, respirable)

- 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
рН	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 đata 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 know to polymerize.

Section 11: Toxicological Information

Acute toxicity		Not classified			
Aspiration hazard		Not classified			
Skin Irritation		Not classified	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	Not classified		
Carcinogenicity		May cause ca	ncer - inhalation		
Quartz (14808-60-7)	IARC Gro	oup – 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 / ACAO / IATA, crystalline silica is not a dangerous product in the sense of transport regulations.

Section 15: Regulatory Information

US Federal Regulations	Silica / Quartz	Immediate health hazard - acute	On US TSCA (Toxic Substances Control
	14808-60-7	Delayed health hazard – chronic.	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	NTP (National Toxicology Program)
		on Cancer) listing.	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	0
Fire Hazard	0 – materials that will not burn	
Reactivity	0 - normally stable, even under fire exposure conditions, are not reactive with water	0

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).

