





I. Product and Company Information			
SII Product Name(s):	Zircon Sand	Synonym:	Georgia Zircon Premium Grade Georgia Zircon Standard Grade Georgia Zircon Calcined Grade
Chemical Name:	Zirconium Silicate	CAS Number:	14940-68-2
Manufacturer's Name: Southern Ionics Minerals, LLC 13291 Vantage Way, Suite 103 Jacksonville, FL 32218 Web Site www.simineralsllc.com		Emergency Contacts: For Emergency Incident Information Call CHEMTREC at 1-800-424-9300 CHEMTREC CCN – 20596	

II. Hazard Identification		
OSHA HCS / GHS Classification(s):	Hazard Statement(s):	
Skin Irritation, Category 2	Causes skin irritation	
Eye Irritation, Category 2B	Causes eye irritation	
Specific Target Organ Toxicity (Respiratory), Category 2	May cause damage to lungs through prolonged or repeated inhalation	
Carcinogen, Category 1A	May cause cancer by inhalation	
Signal Word:	Precautionary Statement(s):	
Danger	Prevention: Wear protective gloves and clothing Wear eye and face protection Wash thoroughly after handling Use only outdoors or in a well-ventilated area Avoid inhalation of respirable particles Response: IF ON SKIN: Take off contaminated clothing and wash before reuse. Wash with plenty of soap and water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF EXPOSED OR CONCERNED: Get medical advice/attention.	
Symbol(s):		
		
		
Additional Label Information:		CANCER HAZARD: Repeated and prolonged inhalation of respirable crystalline silica can cause lung cancer and delayed lung damage (silicosis).
Hazards Not Otherwise Classified:		This product contains trace amounts of naturally occurring radioactive elements of the uranium and thorium series. Low level gamma radiation from bulk or bagged stockpiles can increase radiation levels slightly above normal background.

III. Composition / Information on Ingredients

Chemical Name:	CAS Reg #'s	%
Zircon	14940-68-2	95 - 99%
Aluminum Silicate (Kyanite)	1302-76-7	0.1 - 1.5%
Ilmenite	103170-28-1	0.1 - 1%
Rutile	1317-80-2	0.1 - 1%
Quartz (Crystalline Silica)	14808-60-7	0.05 - 0.5%
Monazite	1306-41-8	~ 0.02%
Comments:	Respirable Crystalline Silica < 0.01%	

IV. First Aid Measures

Eyes:	Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Remove any contact lenses. If eye irritation persists get medical advice/attention.
Dermal / Skin:	Remove contaminated clothing to avoid generating dust. Wash material from the skin. If repeated contact results in skin irritation, get medical advice/attention. Launder clothing before reuse.
Inhalation:	Move to fresh air immediately. Blow nose to remove particles from nasal passages. Call a POISON CENTER or doctor/physician if you feel unwell.
Ingestion:	There are no known hazards resulting from accidental ingestion of Zircon sand as may occur during normal handling. Consult a physician if necessary.

V. Fire Fighting Measures

NFPA Hazard Rating:	Health (Blue)	Fire (Red)	Reactivity (Yellow)	Special Instructions (White)
	1	0	0	0
NFPA Hazard Classification: 0 = Least 1 = Slight 2 = Moderate 3 = High 4 = Extreme				
Extinguishing Media:	Product does not burn. Use extinguishing media suitable for the surrounding fire.			
Special Firefighting Procedure:	No fire or explosion hazard exists.			
Specific hazards arising from the chemical:	Use firefighting methods appropriate to local circumstances and the surrounding environment.			

VI. Accidental Release Measures

Precaution if Spilled or Released:	Use personal protective equipment recommended in SECTION 8 during clean-up. Avoid generating dust. Absorb, sweep up, and place in container for re-use or disposal.
Neutralizing Chemicals:	Reduce dust spreading with a water spray.
Environmental Precautions:	Prevent product from entering drains and waterways.

VII. Handling and Storage

Handling:	Avoid contact with eyes. Avoid creating dust in handling, transfer or clean-up. Avoid breathing dust. Use only with adequate ventilation. Wash thoroughly after handling.
Storage:	This material is not hazardous under normal storage conditions; however, material should be stored in closed containers, in a secure area to prevent container damage and subsequent spillage.

VIII. Exposure Control / Personal Protective Equipment



Component Workplace Control Parameters:

Components:	CAS-No.	Value	Parameters	Basis
Silica, Crystalline Quartz	14808-60-7	TLV	0.025 mg/m ³	ACGIH (respirable fraction)
Zirconium Silicate	14940-68-2	TLV	5 mg/m ³	ACGIH (as Zr)
Aluminum Silicate	1302-76-7	TLV	1 mg/m ³	ACGIH (respirable fraction)
Titanium Dioxide	13463-67-7	TLV	10 mg/m ³	ACGIH (total dust)

Engineering Controls: Use engineering techniques to reduce exposures below airborne exposure limits. Provide ventilation if necessary to keep exposures below their respective threshold limit value. If practical, use local mechanical exhaust ventilation at sources of air contamination, such as open process equipment.

General Hygiene: Practice good personal hygiene after using this material, especially before eating, drinking, smoking, or using the toilet.

Personal Protection Equipment:

Eye: 	Wear safety glasses with side shields in normal conditions. Wear dust-proof goggles in dusty conditions.			
Skin: 	Wear clothing sufficient to cover the skin, safety shoes, and impervious gloves for hand protection against dry material.			
Respiratory:	Use NIOSH/MSHA approved respiratory protection (air purifying or air supplying) with a type 100 (high efficiency particulate cartridge or canister) where concentrations are above airborne exposure limits.			
Other Protective Items:	Meeting the exposure limits for respirable crystalline silica (quartz) and respirable particulates is protective against inhalation exposure to NORMs.			
HMIS Classification:	Health (Blue)	Flammability (Red)	Physical Hazard (Yellow)	PPE (White)
	2	0	0	See above

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

IX. Physical and Chemical Properties

Physical State:	Solid	pH:	5 - 7.5
Appearance:	Off-white to brownish free running sand	Odor Threshold:	NA
Odor:	Odorless	Vapor Pressure:	NA
Specific Gravity:(H₂O=1)	4.6 - 4.8	Melting Point:	2100°C to 2300°C
Vapor Density: (Air=1)	NA	Upper Explosive Limit:	NA
Boiling Point:	NA	Autoignition Temp:	NA
Lower Explosive Limit:	NA	Bulk Density:	2700 to 2950 kg/m ³
Flash Point:	NA	Grain Size (AFS No)	75 - 140
Solubility in water:	Insoluble	Other:	

X. Stability and Reactivity Data

Reactivity	This material is considered inert.
Chemical Stability:	Stable under recommended conditions of storage.
Conditions To Avoid:	No known conditions to avoid.
Incompatible Materials:	None in normal or expected use.
Hazardous products of Decomposition:	Decomposition will not occur.

XI. Toxicological Information

Routes of Entry:	<input checked="" type="checkbox"/> Eyes	<input checked="" type="checkbox"/> Skin	<input checked="" type="checkbox"/> Ingestion	<input checked="" type="checkbox"/> Inhalation
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Sign and symptoms of Exposure:	May cause irritation to eyes, skin, and respiratory passages.					
Eye Contact:	Contact may result in mechanical (abrasive) irritation.					
Ingestion:	No adverse effects expected for incidental ingestion.					
Skin Contact:	Contact may result in mechanical (abrasive) irritation.					
Inhalation:	<p>Zircon sand contains a small amount of respirable crystalline silica (up to 0.01%) and precautions should be taken to avoid inhaling the dust. The normal grain size of the product precludes it from being an inhalation hazard.</p> <p>Zircon sand contains low levels of naturally occurring radioactive elements of the uranium and thorium series. It has typical specific activities of 0.6 to 1.2 Bq/g (thorium-232) and 1.5 to 4.5 Bq/g (uranium-238). Low level gamma radiation from bulk or bagged stockpiles of zircon sand can increase gamma levels slightly above normal background.</p>					
Carcinogenicity: Respirable Crystalline Silica (Quartz)	NTP	Known	IARC	Group 1	OSHA	
Ingredient Name:	Species		Test		Route	Results
Crystalline Silica (Quartz)	Rat		>11,000 mg/kg		Oral	ALD
Crystalline Silica (Quartz)	Carp		>10,000 mg/L		Aquatic	LC 50
Aluminum Silicate	Rat		16,000 mg/kg		Oral	LD 50
Aluminum Oxide	Rat		>2,000 mg/kg		Oral	LD 50
Zircon	Mice		>200 mg/kg		Oral	LD 50
Titanium Dioxide	Rat		>10,000 mg/kg		Oral	LD 50
Comments:						

XII. Ecological Information

Ingredient Name:	Species	Test	Period	Results
Comments:	This product is not anticipated to cause adverse effects to animal or plant life if released to the environment in small quantities. The material is unlikely to cause any environmental damage. It is insoluble in water and is unlikely to contaminate waterways or food chains.			

XIII. Disposal Considerations

Waste Disposal:	Recover, reclaim or recycle when practical. Disposal must be in accordance with federal, state, and local regulations. If approved, may be transferred to an approved landfill site. Consult and comply with current regulations regarding disposal of waste containing NORMs above background levels.
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XIV. Transportation Information

Proper Shipping Name:	None allocated				
DOT Classification:	Not regulated by U.S. DOT as a hazardous material				
Identification Number:	NA	Packing Group:	NA	Other Labels:	NA
Comments:	This product is not classified as "dangerous goods" under IAEA SSR 6, IMDG, IATA, Transport Canada and EU transport regulations.				

XV. Regulatory Information Based on Largest Component (unless listed)

Inventory Status:		US Regulations:	
U. S. TSCA	Yes	SARA 302 TPQ	Not Listed
Europe EINECS	Yes	SARA 304 RQ	Not Listed
Canadian DSL	Yes	SARA 313 List	Not Listed
Japan ENICS/ISHL	Yes	CERCLA (RQ)	Not Listed
Korean KECI	Yes	RCRA 261.33	
Philippines PICCS	Yes		
Australian AICS	Yes		
New Zealand NZIoC	Yes		
China IECSC	Yes	SARA 311/312	<input checked="" type="checkbox"/> Acute <input checked="" type="checkbox"/> Chronic <input type="checkbox"/> Fire <input type="checkbox"/> Release of Pressure <input type="checkbox"/> Reactive
International Regulations:		Other Regulations:	
Canada WHMIS	D-2A; D-2B	Materials causing other toxic effects	California PROP 65 (Quartz) Known Carcinogen
European Economic Community	R42; R43; R36	May cause sensitization by inhalation; sensitization by skin contact; irritating to eyes	

XVI. Other Information

NSF Certification:	
Other:	_____
Revision Notes:	_____
MSDS Replacements:	<u>SIM MSDS Zircon Sand Products</u>

SALES OFFICE 13291 Vantage Way, Suite 103 Jacksonville, FL 32218 TEL: 904-741-0090	For Product Information: TEL: 912-647-0301 FAX: 904-741-0091
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IMPORTANT

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