





I. Product and Company Information

SIM Product Name(s):	Mineral Sands Concentrate	Synonym:	Heavy Mineral Concentrate HMC
Chemical Name:	Ilmenite, Titanium Dioxide, Zirconium Silicate, Pseudorutile, Silicon Dioxide	CAS Number:	
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		Can cause skin irritation due to abrasiveness.	
Eye Irritation, Category 2B		Can cause eye irritation due to abrasiveness.	
Specific Target Organ Toxicity (Respiratory), Category 2		May cause damage to lungs through prolonged or repeated inhalation. Typical product particle size is greater than the 10 micron respirable dust limit.	
Carcinogenicity (Category 1A)		May cause cancer by inhalation.	
Signal Word:	Precautionary Statement(s):		
Warning	Prevention:	Wash thoroughly after handling	
Symbol(s): 		Wear protective gloves/protective clothing	
		Avoid breathing dust/fume/gas/mist/vapors/spray	
		In case of inadequate ventilation wear respiratory protection	
		Do not handle until all safety precautions have been read and understood	
	Response:	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.	
		IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse.	
		IF IN EYES: Rinse cautiously with water for several minutes. Seek medical attention if irritation persists.	
		IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Seek medical attention if experiencing respiratory symptoms.	
Additional Label Information:		SILICA: Crystalline silica is a known cause of lung fibrosis (silicosis). It also has been classified as a human carcinogen (International Agency for Research on Cancer). Mineral Sands Concentrate contains quartz, (up to 25%) and precautions should be taken to avoid inhaling the dust.	
Hazards Not Otherwise Classified:		This product contains low concentrations of naturally occurring radioactive material (NORM) 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	%
Ilmenite/Rutile/Leucoxene	13463-67-7	15 – 50%
Zircon	14940-68-2	10 – 35%
Staurolite	12182-56-8	15 – 25%
Kyanite / Sillimanite	1302-76-7	5 – 15%
Quartz	14808-60-7	5 – 25%
Water	7732-18-5	5 -20%
Uranium - natural	7440-29-1	<0.05%
Thorium - natural	7440-61-1	<0.05%
Comments:	Respirable Crystalline Silica < 0.01%	

IV. First Aid Measures

Ingestion:	Wash mouth out with water ensuring the mouthwash is not swallowed. Seek medical attention as a precaution if discomfort occurs.
Dermal / Skin:	Wash material from the skin. If irritation occurs, seek medical advice. Launder soiled clothing before reuse.
Eye Contact:	Check for and remove any contact lenses. Hold eyelid open and flush with plenty of clean water. Continue for at least 15 minutes or until grit is removed. Seek medical attention if irritation persists.
Inhaled:	Move to fresh air. Blow nose to remove particles from nasal passages. If any adverse reaction develops, seek medical attention.
First Aid Facilities:	Eye wash facilities.
Advice to Physician:	Treat symptomatically.

V. Fire Fighting Measures

Flashpoint:	Not applicable.
Flammability Limits:	Not applicable.
General Hazard:	This product is not flammable or combustible and does not support combustion.
Extinguishing Media:	Non-reactive with typical fire extinguishing agents such as water, foam, carbon dioxide, dry chemicals, etc.

VI. Accidental Release Measures

Precaution if Spilled or Released:	Wear safety equipment as for normal handling. Avoid generating dust. Vacuum up if possible, otherwise sweep up and recycle. If the spilled product is not suitable for reuse, damp down, collect and where possible return to manufacturer for reprocessing. Otherwise, dispose of to an approved landfill site and cover with clean fill in accordance with Federal, State and Local regulations.
Environmental Precautions:	Prevent product from entering drains and waterways.

VII. Handling and Storage

Handling:	Use of safe work practices are recommended to avoid inhalation of dusts or excessive contact with eyes or skin. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking or smoking in areas where this product is used or stored.
Storage:	Store in a controlled, well ventilated area. For smaller quantities, ensure containers are adequately labeled, protected from physical damage and sealed when not in use. For bulk quantities, storage should be in accordance with an approved radiation management plan.



VIII. Exposure Control / Personal Protective Equipment

Component Workplace Control Parameters:

Components:	CAS-No.	Value	Parameters	Basis
Titanium Dioxide	13463-67-7	TLV	10 mg/m ³	ACGIH
Zircon	14940-68-2	TLV	5 mg/m ³	ACGIH (as Zr)
Quartz	14808-60-7	TLV	0.05 mg/m ³	ACGIH (respirable dust)
Uranium	7440-61-1	TLV	0.2 mg/m ³	ACGIH (as U)
Thorium	7440-29-1	---	-----	Not established

Engineering Controls: Ventilation requirements will depend on handling methods and the amount in use, but should be sufficient to maintain dust levels below exposure limits. Points of dust generation such as conveyor and hopper discharges should be equipped with an effective extraction system.

Personal Protection Equipment:

Eye:		Wear safety glasses with side shields or dust proof goggles to protect against abrasive effects.
Skin:		Wear impervious clothing and appropriate protective gloves to minimize contact with the skin.
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.
Radiation Exposure:		Uranium and thorium are naturally occurring radioactive materials (NORM). Occupational exposure to NORM should be as low as reasonably achievable (ALARA principle), and should not exceed a total of 100 milliseiverts (100 millirems) per year over five consecutive years (ICRP).

IX. Physical and Chemical Properties

Appearance (Form)	Light gray to tan, free running sand		
Evaporation Rate:	Not volatile	pH:	6 - 8
Odor:	Odorless	Vapor Pressure:	Not volatile
Specific Gravity:(H₂O=1)	3.8	Melting Point:	>1000° C
Vapor Density: (Air=1)	Not available	% Volatiles:	Not available
Boiling Point:	Not available	Flammability:	Non-flammable
Flash Point:	Not relevant	Bulk Density:	2200 kg/m ³
Solubility in water:	Insoluble	Grain Size	80 - 95

X. Stability and Reactivity Data

Reactivity	Inert
Chemical Stability:	Stable
Conditions To Avoid:	Avoid contact with strong oxidizers.
Incompatible Materials:	None in normal or expected use.
Hazardous products of Decomposition:	Decomposition will not occur.

XI. Toxicological Information

Health Hazard Summary:

This product is considered non-toxic. Under normal conditions of use, adverse health effects are not anticipated. Refer to Section 2 – HAZARD IDENTIFICATION in this SDS for potential health effects.

Acute Toxicity	Potential irritant to upper respiratory track and mucus membranes if inhaled, and to eyes and skin due to abrasive nature of product.				
Chronic Toxicity	Repeated exposure to high concentrations of product dust may result in severe respiratory irritation. Prolonged and repeated inhalation of respirable silica may result in pulmonary fibrosis (silicosis).				
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	

XII. Ecological Information

Ingredient Name:	Species	Test	Period	Results
Comments:	This product 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.
Legislation:	Many states are developing new regulations for the disposal of waste containing Naturally Occurring Radioactive Materials (NORM) or Technologically Enhanced Naturally Occurring Radioactive Materials (TENORM) above background levels. Consult and comply with current regulations.

XIV. Transportation Information

Proper Shipping Name:	None allocated				
DOT Classification:	Not regulated by U.S. DOT if activity is <2,000 pCi/gram.				
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

TSCA Inventory Status	Yes	SARA Section 302 (40 CFR 355.30)	No
CERCLA Section 103 (40 CFR 302.4)	No	SARA Section 304 (40 CFR 355.40)	No
California Proposition 65	Yes	SARA Section 313 (40 CFR 372.65)	No
SARA Hazard Categories, SARA Sections 311/312 (40 CFR 370.21)			
Acute Hazard	No	Fire Hazard	No
Chronic Hazard	No	Reactivity Hazard	No
		Sudden Release Hazard	No

XVI. Other Information

NSF Certification:	
Other:	_____
Revision Notes:	_____
MSDS Replacements:	<u>SIM MSDS Mineral Sands Concentrate</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
-------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------

IMPORTANT

Although the information contained is offered in good faith, SUCH INFORMATION IS EXPRESSLY GIVEN WITHOUT ANY WARRANTY (EXPRESS OR IMPLIED) OR ANY GUARANTEE OF ITS ACCURACY OR SUFFICIENCY and is taken at the user's sole risk. User is solely responsible for determining the suitability of use in each particular situation. SIM specifically DISCLAIMS ANY LIABILITY WHATSOEVER FOR THE USE OF SUCH INFORMATION, including without limitation any recommendation which user may construe and attempt to apply which may infringe or violate valid patents, licenses, and/or copyright.