


## 1. Product and Company Information

<b>Product Series</b>	3Micron
<b>Product Use</b>	Additive for use in rubber, plastics, composites, adhesives, coatings, and sealants
<b>Product Type</b>	Fine powder mineral additive
<b>Manufacturer</b>	Spherix Products, Two Notch Road, Lexington, SC 29073.   1-844-774-3749   customersupport@spherixproducts.com

## 2. Hazards Identification

<b>2.1 Classification of substance</b>	
<b>Health Hazards</b>	Skin irritation, Category 2. Eye irritation, Category 2B. Specific Target Organ Toxicant, Single Exposure, Category 3.
<b>Specific Hazards</b>	Respirable particles may become airborne if agitated. Provide workplace air filtration engineering controls, capable of removing at least 99% of particulates. If action levels of airborne respirable silica may be exceeded over a 30-day period, use facemasks with an assigned protection factor of 50 and equipped with filter P-100 cartridges
<b>Main Symptoms</b>	Upper respiratory tract irritation   Coughing   Irritation of eyes and mucous membranes   Skin irritation
<b>2.2 Label Elements</b>	
<b>Signal Word</b>	Danger
<b>Symbol</b>	
<b>Hazard Statements</b>	Dust may cause respiratory irritation. Repeated/prolonged exposure to dust inhalation may cause damage to lungs.
<b>2.3 Precautionary Statements</b>	
<b>Prevention</b>	Avoid prolonged skin contact   Avoid ingestion   Avoid breathing dust   Use respiratory protection.
<b>Response</b>	<b>IF IN EYES:</b> Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing. If eye irritation persists, get medical advice/attention. <b>IF INHALED:</b> Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER if you feel unwell. <b>IF SKIN IRRITATION OCCURS:</b> Get medical advice/attention.
<b>Storage</b>	Store bags in dry, well-ventilated place with container tightly closed. Store locked up.
<b>Disposal</b>	NON-HAZARDOUS (EPA). Product does not constitute hazardous waste. Federal Register 21301-21501. April 17, 2015.
<b>2.4 Human Health Hazards</b>	
<b>Precautionary Statements</b>	Avoid prolonged skin contact   Avoid breathing substance   Avoid ingestion   Use respiratory protection   Wash skin with soapy water

## 3. Composition Information

Ingredient Name	CAS Number	Wt.%	UN GHS (Rev 4) Classification
Aluminosilicate Solid Ceramic Spheres	68131-74-8	95-99	Single Exposure STOT, Hazard Category 3
Silica, Respirable	14808-60-7	0.2-1	Repeated exposure STOT, Hazard Category 2
<b>Components of Solid, Ceramic Spheres</b>			
Amorphous Silicon Dioxide	60676-86-0	40-55	Spheres: Single Exposure STOT Hazard Category 3
Alumina	1344-28-1	25-35	
Iron Oxide	1309-37-1	3-12	
Calcium Oxide	1305-78-8	2-4	
Potassium Oxide	12136-45-7	2-4	
Magnesium Oxide	1309-48-4	1-2	
Titanium Oxide	13463-67-7	0.1-4	
Crystalline Silica	14808-60-7	0.1-2	

## 4. First Aid Measures

<b>Inhalation</b>	Remove person to fresh air. Dust in throat and nasal passage should clear spontaneously. Consult a physician if discomfort or difficulty breathing persists.
<b>Eye Contact</b>	Do not rub. Flush eyes with water for several minutes. Consult a physician if there is persistent irritation.
<b>Skin Contact</b>	No acute hazard is associated with short-term skin contact. Avoid prolonged skin contact. Periodic washing of skin with soap and water is recommended.
<b>Ingestion</b>	Rinse mouth with water; clear nose and throat. No specific first aid measures are required.
<b>Most important health effects, both acute and delayed</b>	Acute: irritated respiratory tract and eyes. Chronic effects: frequent inhalation of dust levels above permissible exposure limits (PEL) over a long period of time increases the risk of developing lung damage, including silicosis.

<b>Indication of any immediate medical attention and special treatment needed</b>	None on short term exposure to dust. Get medical attention if inhalation is severe/prolonged and respiratory symptoms persist after immediate first aid measures are given.
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## 5. Fire-Fighting Measures

<b>Suitable Extinguishing Media</b>	Product is noncombustible. Use extinguishing media for surrounding materials.
<b>Extinguishing Media Which Should Not be Used</b>	No restriction
<b>Special Exposure Hazards</b>	No unusual fire or explosion hazards noted. No anticipated thermal decomposition products.
<b>Special Protective Equipment for Fire Fighters</b>	Wear dust mask.

## 6. Accidental Release Measures

<b>Personal Precautions</b>	No action shall be taken involving any personal risk or without suitable training. Don appropriate personal protective equipment. If ventilation is inadequate, utilize appropriate respiratory protection. Avoid airborne dust generation.
<b>Environmental Precautions</b>	3Micron does NOT CONSTITUTE HAZARDOUS WASTE.
<b>Methods of Cleaning Up</b>	Do not dry sweep. Do not use compressed air. Water spray or HEPA equipped vacuum is recommended for removing spilled material. Minimize generation of airborne dust during cleanup activities.

## 7. Handling and Safe Storage

<b>Handling</b>	
<b>Advice on Safe Handling</b>	No special precautions, except for controlling dust. Dust masks equipped with N-100 HEPA filters are advised. Periodically vacuum (HEPA filter) accumulated dust on walls, floors, sills, ledges, machinery, or equipment. Keep airborne dust concentrations below PEL.
<b>Technical Measures and Storage</b>	Adequate exhaust ventilation should be operational in closed places where airborne dust is generated. Keep containers closed.
<b>Storage</b>	
<b>Technical Measures and Storage</b>	Containers need to be protected from physical damage that could lead to spillage and airborne dust generation.
<b>Packaging Materials</b>	Keep containers closed and store bags to avoid accidental tearing, breaking, or bursting. Packaging bags can be disposed of as ordinary refuse in any sanitary landfill or by incineration.

## 8. Exposure Controls/Personal Protection

Ingredient Name	OSHA PEL	ACGIH TLV	NIOSH REL
Respirable Silica (Quartz)	0.05 mg/m <sup>3</sup> 8-Hr. TWA Action level: 0.025 mg/m <sup>3</sup> 8 Hr. TWA 30 or more days per year.	0.1 mg/m <sup>3</sup> (respirable dust)	0.05 mg/m <sup>3</sup> 10 Hr. TWA (respirable dust)

<b>Biological Limit Values</b>	There are no ACGIH Biological Exposure Indices (BEI®) for 3Micron
<b>DNEL/NMEL Values</b>	Not Available
<b>PNEC Values</b>	Not Available
<b>General Exposure Controls</b>	Provide ventilation to maintain the ambient workplace atmosphere below the occupational exposure limit(s). Use general and local exhaust ventilation and dust collection systems as necessary to minimize exposure.
<b>Respiratory Protection</b>	Where the level of exposure to dust exceeds the action level for crystalline silica, NIOSH-certified HEPA respirator equipped with N-100 cartridges is recommended. See Section 7.
<b>Eye Protection</b>	Safety glasses or goggles are recommended.
<b>Skin Protection</b>	Wear gloves and work clothing that minimizes skin contact.
<b>Environmental Exposure Controls</b>	Contain spills and prevent wind dispersal. Follow state regulations for disposal, water emissions, and air emissions.

## 9. Physical and Chemical Properties

<b>Appearance</b>	
<b>Physical State</b>	Solid (powder)
<b>Color</b>	Beige (dry powder state)
<b>Odor</b>	No odor
<b>Properties</b>	
<b>Flash Point</b>	Noncombustible

<b>Explosion Limits (Upper)</b>	Not available
<b>Explosion Limits (Lower)</b>	Not available
<b>pH (10% aqueous slurry)</b>	6.5 - 7.5
<b>Melting Point</b>	Greater than 1600°F
<b>Boiling Point</b>	Not available
<b>Relative Density</b>	2.3 - 2.4
<b>Vapor Pressure</b>	Zero
<b>Odor Threshold</b>	N/A
<b>Viscosity</b>	N/A
<b>Solubility (water)</b>	Insoluble
<b>Partition Coefficient n-octanol/water</b>	Resides in water phase
<b>Evaporation Rate</b>	Zero
<b>Vapor Density</b>	N/A - No volatile components

## 10. Stability and Reactivity

<b>Conditions to Avoid</b>	Prolonged agitation that generates dust
<b>Materials to Avoid</b>	Strong acids, strong oxidizers
<b>Chemical Stability</b>	Chemically stable in all conditions of normal use
<b>Possible Hazardous Reactions</b>	Material is a stable earthen mineral. Polymerization will not occur.
<b>Hazardous Decomposition Products</b>	Not known

## 11. Toxicological Information

<b>General Information</b>	3Micron as a mixture has not been evaluated for toxicological information. It is made of amorphous aluminosilicate mixed metal oxide ceramic formed during a high-temperature oxidation process which is then subjected to chemical surface treatment.
<b>Special Statement on Crystalline Silica</b>	Without dust removal equipment, prolonged agitation of dry powder may generate airborne dust over an 8-hour time weighted average at action levels for respirable crystalline silica. Engineering controls and dust respirators recommended.
<b>Skin Contact</b>	Dust may irritate skin on prolonged exposure.
<b>Inhalation</b>	Dust may irritate sinuses, and respiratory system. Chronic exposure above Occupational Exposure Limits increases the risk of developing lung disease.
<b>Eye Contact</b>	Dust may irritate eyes.
<b>Toxicological Information for Components (US NIOSH)</b>	Note: Occupational exposure to silica and metal oxides within the solid ceramic spheres does not occur during normal use of 3Micron.
<b>CMR Effects (carcinogenicity, mutagenicity, and toxicity for reproduction)</b>	3Micron has not been tested for carcinogenicity, mutagenicity, or toxicity for reproduction. Although no studies are known about airborne chronic health effects, specifically associated with cancer, mutagenicity or toxicity for reproduction from exposure to solid ceramic spheres, the risks associated with any respirable, poorly soluble solids such as these are assumed to potentially apply.

## 12. Ecological Information

<b>Ecotoxicity</b>	No data at this time
<b>Mobility</b>	No data at this time

## 13. Disposal Considerations

<b>Waste Disposal</b>	Cover material to prevent airborne dust and dispose of in a landfill according to state and local regulations for non-hazardous waste.
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## 14. Transportation

<b>DOT Shipping Name</b>	Not regulated
<b>DOT Hazard Class</b>	Not regulated
<b>DOT Label(s)</b>	Not regulated
<b>UN/NA Number</b>	Not regulated
<b>Placards</b>	Not regulated
<b>IATA</b>	Not regulated
<b>Marine Pollutant</b>	Not listed

## 15. Regulatory Information

US Regulations	
<b>SARA 302 EHS</b>	Neither 3Micron nor components of the solid ceramic spheres are on the EPCRA Extremely Hazardous Substances list (40 CFR 302).
<b>SARA 311/312 Classification</b>	Chronic
<b>SARA 313 Supplier Notification</b>	None
<b>TSCA</b>	Users are required to conform to air quality and personal protective equipment limits set forth herein.
<b>California Proposition 65</b>	The following substances are known to the State of California to be carcinogens and/or reproductive toxicants: silica, crystalline.

State Right to Know					
Component	CAS	MA <sub>1,2</sub>	NJ <sub>3,4</sub>	PA <sub>5</sub>	RI <sub>6</sub>
Calcium oxide	1305-78-8	Yes	Yes	Yes	No
Iron oxide	1309-37-1	Yes	Yes	Yes	No
Magnesium oxide	1309-48-4	No	Yes	No	No
Potassium oxide	12136-45-7	No	Yes	No	No
Silica-crystalline (SiO <sub>2</sub> ), quartz	14808-60-78	Yes	Yes	Yes	No
Sodium Oxide	1313-59-3	No	Yes	No	No

1. Massachusetts Department of Public Health, no date
2. 189th General Court of The Commonwealth of Massachusetts, no date
3. New Jersey Department of Health and Senior Services, 2010a
4. New Jersey Department of Health, 2010b
5. Pennsylvania Code, 1986
6. Rhode Island Department of Labor and Training, no date

## 16. Other Information

<b>Training Instructions</b>	Workers exposed to crystalline silica are required to obtain training to be in compliance with OSHA Final rules for silica (81 FR 16286-16890) published March 26, 2016, which are applicable to the safe handling and use of 3Micron. Follow company training, housekeeping, air quality engineering controls, and use the proper personal protective equipment described above.
<b>Data Sources</b>	ACGIH® (American Conference of Governmental Industrial Hygienists) New Jersey Right to Know Hazardous Substance Fact Sheets US OSHA, 29 CFR 1910, Tables Z-1, Z-2, Z-3 US Centers for Disease Control and Prevention, NIOSH Pocket Guide
<b>Prepared By</b>	Spherix
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<b>Version</b>	1

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