

SAFETY DATA SHEET

Ocellus Silica Aerogel

REVISION DATE: 6/13/2017

VERSION: 3.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product Identifier

Product name: Ocellus Silica Aerogel

1.2. Relevant identified uses of the substance or mixture

Identified uses: For research and industrial use only

1.3. Details of the manufacturer/supplier of the safety data sheet

Company: **Ocellus, Inc.**
450 Lindbergh Avenue
Livermore, CA 94551
USA

Telephone: +1 (925) 606-6540
Fax: +1 (925) 606-6594

1.4. Emergency telephone number

Emergency contact number: **+1 (925) 606-6540 (USA)**

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS): Combustible dust

For full text of the H-Statement(s) mentioned in this Section, See Section 16

2.2. GHS Label elements, including precautionary statements



Pictograms:

Signal Word: **Danger**

Hazard Statements:

H372 Causes damage to organs through prolonged or repeated exposure

Precautionary Statements:

P260 Do not breathe dust/fume/gas/mist/vapors/spray

P264 Wash skin thoroughly after handling

P270 Do not eat, drink or smoke when using this product

P314 Get medical advice/attention if you feel unwell

2.3. **Hazards not otherwise classified (HNOC) or not covered by GHS or HMIS:** None

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SECTION 3: Composition/information on ingredients

3.1. Substances

Synonyms: Silica Aerogel, amorphous silica, porous silica

Formula: SiO₂

Molecular Weight: 60.09 g/mol

CAS-No.: 7631-89-9

EC-No.: 231-545-4

Percentage: >99%

Hazardous Components

Silicon dioxide

STOT RE 1; H372

For full text of the H-Statement(s) mentioned in this Section, See Section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

If inhaled:	If breathed in, move person into fresh air. If not breathing, give artificial respiration.
In case of skin contact:	Wash off with soap and plenty of water.
In case of eye contact:	Flush eyes with water as a precaution
If swallowed:	DO Not Induce Vomiting! Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention immediately.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation:	Inhalation of airborne fragments or dust may cause mechanical irritation of the upper respiratory tract
Symptoms/injuries after skin contact:	Skin contact with fragments or dust from this product can produce a drying sensation and mechanical irritation of the skin and mucous membranes
Symptoms/injuries after eye contact:	Exposure to fragments or dust from this product can produce drying sensation and mechanical irritation of the eyes
Symptoms/injuries after ingestion:	This material is not intended to be ingested. If ingested in large quantity, the material may locally dehydrate contacted tissue, produce mechanical irritation, and/or result in blockage
Acute Health Hazards:	Fragments and dust from this product are a physical irritant and may cause temporary irritation of scratchiness of the throat and/or itching and redness of the eyes and skin
Chronic Health Hazards:	Product is not known to pose any chronic health hazards

4.3. Indication of any immediate medical attention and special treatment needed

Mechanical processing of product may result in lightweight fragments or dust. Inhalation of excessive

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amounts of dust from the product may cause mechanical irritation of the respiratory tract. Dermal contact may cause mechanical irritation of the skin.

Excessive inhalation of fragments or dust may aggravate pre-existing chronic lung conditions including, But not limited to, bronchitis, emphysema, and asthma. Dermal contact may aggravate existing dermatitis.

SECTION 5: Fire-fighting measures

5.1. Extinguishing media

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2. Special hazards arising from the substance or mixture

Fire Hazard: No data available

5.3. Advice for firefighters

Protection during firefighting: Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots to prevent contact with skin and eyes

5.4. Additional Information : Not applicable

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Avoid breathing dust. For personal protections see section 8.

6.2. Environmental precautions

Do not let product enter drains

6.3. Methods and material for containment and cleaning up

Pick-up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal. Dispose of all waste and cleanup materials in accordance with regulations.

6.4. Additional information: Not applicable

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs. Provide appropriate exhaust ventilation at places where dust is formed. Avoid inhalation. Avoid contact with eyes, skin and clothing. Avoid prolonged repeated exposure.

7.2. Conditions for safe storage, including any incompatibilities

Store in a cool, dry container and in a well-ventilated place. Keep container tightly closed.

7.3. Specific end use(s): Not applicable

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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Components with workplace control parameters

Component	CAS-No.	Value	Control Parameters	Basis
Silicon dioxide	7631-86-9	TWA	20 million particles per cubic foot	USA. Occupational Exposure Limits (OSHA) – Table Z -3 Mineral Dusts
	Remarks	Based on impinger samples counted by light-field techniques. Mppcf X 35.3 = million particles per cubic meter = particles per cc		
		TWA	80 mg/m ³ / %SiO ₂	USA. Occupational Exposure Limits (OSHA) – Table Z -3 Mineral Dusts
		TWA	6 mg/m ³	USA. NIOSH Recommended Exposure Limits
		PEL	6 mg/m ³	California permissible exposure limits cor chemical Contaminants (Title 8, Article 107)

8.2. Exposure controls

Appropriate engineering controls:

General (mechanical) room ventilation is expected to be satisfactory of normal handling; Showers/Eyewash stations/Ventilation system

Personal protection equipment

Eye/face protection:

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection:

Handle with Nitrile gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands

Respiratory protection:

Provide local exhaust, preferably mechanical. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. If exposure levels are excessive, use and approved respirator. Wear NIOSH approved respiratory protective equipment when applicable limits may be exceeded.

Hygiene measures:

Handle in accordance with good industrial hygiene and safety practices.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

- | | |
|---|---|
| a) Appearance | Form: solid
Color: white |
| b) Odor | Odorless |
| c) Odor Threshold | No data available |
| d) pH | No data available |
| e) Melting point/freezing | Melting point/range 1,600 °C (2,912 °F) |
| f) Initial boiling point/boiling range | 2,200 °C (3,992 °F) |
| g) Flash point | No data available |
| h) Evaporation rate | No data available |
| i) Flammability (solid, gas) | May form combustible dust concentrations in air |
| j) Upper/lower flammability of explosive limits | No data available |
| k) Vapor pressure (mm Hg) | No data available |

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l) Vapor density (Air=1)	No data available
m) Specific Gravity/Density	0.02 to 0.30 g/cm ³
n) Water solubility	Insoluble in water
o) Partition coefficient: n-octanol-water	No data available
p) Auto-ignition temperature	No data available
q) Decomposition temperature	No data available
r) Viscosity	No data available
s) Explosive properties	No data available
t) Oxidizing properties	No data available

9.2. Other Information: Not applicable

SECTION 10: Stability and reactivity

10.1. Reactivity:	No data available
10.2. Chemical stability:	The product is stable under normal handling and storage conditions
10.3. Possibility of hazardous reactions:	No data available
10.4. Conditions to avoid:	No data available
10.5. Incompatible materials:	Strong oxidizing agents
10.6. Hazardous decomposition products:	Silicon oxides formed under fire conditions. Other decomposition products – No data available. In the event of fire: See section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity:	The lethal dose for humans for synthetic amorphous silica is estimated at over 15000 mg/Kg.
Inhalation:	No data available
Dermal:	No data available
Skin corrosion/irritation:	No data available
Serious eye damage/eye irritation:	No data available
Respiratory or skin sensitization:	No data available
Germ cell mutagenicity:	No data available

Carcinogenicity

ARC:	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH:	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP:	No component of this product present at levels greater than or equal to 0.1% is identified

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OSHA: as a known or anticipated carcinogen by NTP.
No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity; No data available

Specific target organ toxicity (single exposure): No data available

Specific target organ toxicity (repeated exposure): No data available
The substance or mixture is classified as specific organ toxicant, repeated exposure, category 1

Aspiration hazard: No data available

Additional Information RTECS: No data available

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12: Ecological information

- | | |
|--|-------------------------------------|
| 12.1. Ecotoxicity | No additional information available |
| 12.2. Persistence and degradability | No additional information available |
| 12.3. Bioaccumulative potential | No additional information available |
| 12.4. Mobility in soil | No additional information available |
| 12.5. Other adverse effects | No additional information available |

SECTION 13: Disposal considerations

- | | |
|--------------------------------------|---|
| 13.1. Waste treatment methods | |
| Waste disposal recommendations: | Contact a licensed professional waste disposal service to dispose of this material. Dispose of content and/or container in accordance with local, regional, national, and/or international regulations. |
| Contaminated packaging: | Dispose of as unused product |

SECTION 14: Transportation information

- 14.1 The listed Transportation Classification does not address regulatory variations due to changes in package size, mode of shipment or other regulatory descriptors.

DOT (US): Not dangerous goods

IMDG: Not dangerous goods

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IATA: Not dangerous goods

SECTION 15: REGULATORY INFORMATION

15.1 US Federal Regulations

OSHA HAZARDS:

No known hazards

SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

No SARA Hazards

Massachusetts Right To Know Components

	CAS-No.	Revision Date
Silicon dioxide	7631-86-9	1993-04-24

Pennsylvania Right To Know Components

	CAS-No.	Revision Date
Silicon dioxide	7631-86-9	1993-04-24

New Jersey Right To Know Components

	CAS-No.	Revision Date
Silicon dioxide	7631-86-9	1993-04-24

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm

SECTION 16: OTHER INFORMATION

Full text of H-Statement(s) referred to under sections 2 and 3.

H372	Causes damage to organs through prolonged or repeated exposure
STOT RE	Specific target organ toxicity – repeated exposure*

POTENTIAL HEALTH EFFECTS:

Inhalation:	May be harmful if inhaled. May cause respiratory tract irritation.
Ingestion:	May be harmful if swallowed.
Skin:	May be harmful if absorbed through skin. May cause skin irritation.
Eyes:	May cause eye irritation.

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HMIS Rating:

Health Hazard: 1
Chronic Health Hazard *

Flammability: 0

Physical Hazards: 0

NFPA Rating:

Health Hazard: 0

Fire: 0

Reactivity Hazard: 0

Preparation information:

Prepared 10/2001 – initial version 1.0

Prepared 12/2008 – revision 2.0

Prepared 6/13/2017 – revision 3.0

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