SAFETY DATA SHEET

1. IDENTIFICATION

Product identifier: Cryogel® X201
Synonyms: Silica aerogel material

Manufacturer Name: Aspen Aerogels, Inc.
Address: 30 Forbes Road Bld. B
Northborough, MA 01532

Telephone number: **(508) 691-1111**
Email: EHS@aerogel.com

Emergency phone number: 800-535-5053 US (INFOTRAC)
352-323-3500 INTERNATIONAL

Recommended use: High performance insulation material
Restrictions on use: None.

Date of Preparation: June 11**,** 2015

2. HAZARD(S) IDENTIFICATION

Classification:

Physical	**Health**
Not Hazardous	Not Hazardous

Label Elements

Not hazardous in accordance with the GHS and OSHA Hazcom 2012.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical name	**CAS No.**	**Percent**
Synthetic Amorphous Silica	7631-86-9	40-50%
Methylsilylated Silica	68909-20-6	10-20%
Polyethylene terephthalate (PET or polyester)	25038-59-9	10-20%
Fibrous Glass (textile grade)	Not Applicable	10-20%
Magnesium Hydroxide	1309-42-8	0-5%

The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST-AID MEASURES

Inhalation: If dust is inhaled, remove to fresh air. Drink water to clear throat and blow nose. If irritation occurs or symptoms develop, seek medical attention.

Skin contact: Wash skin with soap and water. If irritation develops, get medical attention, launder clothing before reuse.

Eye contact: Do not rub eyes. Dust particles may cause abrasive injury. Immediately flush eyes with water while lifting the upper and lower lids. Seek medical attention if irritation persists**.**

Ingestion: No first aid is generally required. No adverse effects are expected from incidental ingestion.

Most important symptoms/effects, acute and delayed: Dust may cause eye irritation. Silica aerogels are hydrophobic (repel water) and may cause temporary drying and irritation of the skin, eyes, and mucous membranes. Inhalation of dust from handling may cause upper respiratory tract irritation. Handling may cause dryness and irritation of the skin.

Indication of immediate medical attention and special treatment, if necessary: Immediate medical attention is generally not required.

5. FIRE-FIGHTING MEASURES

Extinguishing media: Use any media that is suitable for the surrounding fire.

Specific hazards arising from the substance or mixture: Product is a super-insulator. Rolls of material will retain heat within internal layers that may be a source of ignition after the fire is extinguished. Keep hot material away from combustible materials and cool hot insulation with water.

Special protective equipment and precautions for fire-fighters: Normal firefighting procedures should be followed to avoid inhalation of smoke and gases produced by a fire.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures: Wear appropriate protective clothing and equipment as described in Section 8. Avoid generating airborne dust during cleanup. Ensure adequate ventilation.

Environmental Precautions: Material is not water soluble. Report spills as required under federal, state and local regulations.

Methods and materials for containment and cleaning up: Collect using methods that avoid the generation of dust (pick up or vacuum dust) and place in appropriate container for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling: Aerogel blankets may generate dust when handled. Workplace exposures to all dusts should be controlled with standard industrial hygiene practices. Local exhaust should be the primary dust control method. Dust generated when handling this product should be cleaned up promptly. Dry vacuuming is the preferred method for cleaning up dust. Because aerogel dust is hydrophobic, water is not an effective dust control agent. Unpack material in the work area. This will help to minimize the area where dust exposure may occur. Trimmed material should be promptly packed in disposal bags. Trims and offcuts may be resued in secondary applications, otherwise scrap material should be packed for disposal. Avoid dust contact with eyes, skin and clothing and avoid breathing dust. Wash with soap and water after handling.

Conditions for safe storage, including any incompatibilities: Keep tightly closed in the packaging until ready for use. Store in a dry location.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure guidelines:

Synthetic Amorphous Silica	6 mg/m3 TWA OSHA PEL*
Methylsilylated Silica (as particulates not otherwise classified)	5 mg/m3 (respirable), 15 mg/m3 (total dust) TWA OSHA PEL
Polyethylene terephthalate (PET or polyester) (as particulates not otherwise classified)	5 mg/m3 (respirable), 15 mg/m3 (total dust) TWA OSHA PEL
Fibrous Glass (textile grade)	5 mg/m3 (respirable), 15 mg/m3 (total dust) TWA OSHA PEL 5 mg/m3 (inhalable) / 1 fiber/cc TWA ACGIH TLV
Magnesium Hydroxide	None Established

*Equivalent to 20 mppcf; 54 FR 2701

Appropriate engineering controls: Use with adequate local exhaust ventilation to minimize exposures. Provide local exhaust ventilation where product is processed in a manner that generates dust.

Individual protection measures:
Respiratory protection: If exposures exceed the occupational exposure limits or if inhalation of dust results in experiencing irritation, an appropriate certified particulate respirator is recommended. Selection of respiratory protection depends on the contaminant type, form and concentration. Select in accordance with OSHA 1910.134 and good Industrial Hygiene practice, e.g. a NIOSH approved P100 or N100 particulate filtering facepiece respirator.

Skin protection: Impervious gloves recommended for handling product. Long-sleeved and long-legged work clothing are also advised.

Eye protection: Safety glasses with side shields or dust goggles recommended.

Other: None known.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.): White fabric blanket
Odor: Slight ammonia.

Odor threshold: 0.6-53 ppm (ammonia)	**pH:** Not applicable
Melting point/freezing point: Not determined	**Boiling Point:** Not applicable
Flash point: Not applicable	**Evaporation rate:** Not applicable
Flammability (solid, gas): Not flammable	**VOC:** Not applicable
Flammable limits: LEL: Not applicable	**UEL:** Not applicable
Vapor pressure: Not applicable	**Vapor density:** Not applicable
Relative density: Not determined	**Solubility(ies):** Insoluble in water
Partition coefficient: n-octanol/water: Not available	**Auto-ignition temperature:** Not applicable
Decomposition temperature: Not determined	**Viscosity:** Not applicable

10. STABILITY AND REACTIVITY

Reactivity: Not reactive under normal conditions of use.
Chemical stability: Stable.
Possibility of hazardous reactions: None known.
Conditions to avoid: Avoid prolonged exposure above the recommended use temperature.
Incompatible materials: None known.
Hazardous decomposition products: Under recommended usage conditions, hazardous decomposition products are not expected.

11. TOXICOLOGICAL INFORMATION

Acute effects of exposure:
Inhalation: Tempoary inhalation of dust may cause irritation of the mucous membranes and upper respiratory tract.
Ingestion: No adverse effects expected, however, do not ingest.
Skin contact: Handling may cause dryness and irritation of the skin.
Eye contact: Contact may cause irritation with redness and tearing. Dust may cause abrasive injury.
Chronic Effects: None known.
Sensitization: Components are not known to be sensitizers.
Germ Cell Mutagenicity: None of the components have been shown to cause germ cell mutagenicity.
Reproductive Toxicity: Components are not reproductive toxins.
Carcinogenicity: None of the components at 0.1% or greater are listed as carcinogens or suspected carcinogens by IARC, NTP, ACGIH or OSHA. The International Agency for Research on Cancer (IARC) considers synthetic amorphous silica and continuous filament fiber glass to be not classifiable as to carcinogenicity to humans (Group 3).

Acute Toxicity Values: Components are not acutely toxic.

12. ECOLOGICAL INFORMATION

Ecotoxicity values: No data is available
Persistence and degradability: No data is available
Bioaccumulative potential: No data is available
Mobility in soil: No data is available.
Other adverse effects: None known.

13. DISPOSAL CONSIDERATIONS

Dispose in an approved landfill in accordance with federal, state / provincial, and local regulation. Cover promptly to avoid dust generation. This product is not regulated as a hazardous waste under US RCRA regulations.

14. TRANSPORT INFORMATION

	UN Number	Proper shipping name	Hazard Class	Packing Group	Environmental Hazard
DOT		Not Regulated			
TDG		Not Regulated			
IMDG		Not Regulated			
IATA		Not Regulated			

Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code): Not applicable – product is transported only in packaged form.

Special precautions: None known.

15. REGULATORY INFORMATION

Safety, health, and environmental regulations specific for the product in question.

CERCLA: This product is not subject to CERCLA release reporting. Many states have more stringent release reporting requirements. Report spills as required under federal, state and local regulations.

SARA Hazard Category (311/312): Not Hazardous

EPA SARA 313: This product contains the following chemicals regulated under SARA Title III, section 313:
None

EPA TSCA Inventory: This product is a manufactured article and not subject to TSCA pre-manufacturing notification requirements**.**

CANADIAN REGULATIONS: All chemical substances in this product are included on or exempted from the Canadian Domestic Substance List (DSL).

16. OTHER INFORMATION

NFPA Rating: Health = 1 Flammability = 0 Instability = 0
HMIS Rating: Health = 1 Flammability = 0 Physical Hazard = 0

SDS Revision History: Changes to Sections 3, 7 and 8
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DISCLAIMER: The information herein is presented in good faith and believed to be accurate as of the effective data given. However, no warranty, expressed or implied, is given. It is the user's responsibility to ensure that its activities comply with Federal, State or Provincial, and local laws.