

SAFETY DATA SHEET

Regulation (EC) No 1907/2006 and 453/2010 (REACH)

Section 1 Identification of the Substance/Preparation and of the Company/Undertaking.

1.1 Product Identifier

Product Type: Pyrogel® XT-E

1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Product Use: High performance insulation material

Uses Advised Against: None.

1.3 Details of the Supplier of the Substance or Mixture

Manufacturer:

Aspen Aerogels, Inc.
30 Forbes Road Bld. B
Northborough, MA 01532
+1 (508) 691-1111

EU Importer

1.4 Emergency Telephone Number

Transportation Emergencies: +1 800-535-5053 US (INFOTRAC)
+1 352-323-3500 INTERNATIONAL

Other Product Information: EHS@aerogel.com

SDS Date of Preparation: June 11, 2015

Section 2 Hazard Identification

2.1 Classification of the Substance or Mixture:

CLP/GHS Classification (1272/2008):

Health Hazards	Physical Hazards	Environmental Hazards
Not Hazardous	Not Hazardous	Not Hazardous

EU Classification (67/548/EEC): Not dangerous

2.2 Label Elements

Not hazardous in accordance with the Regulation (EC) 1272/2008 CLP.

2.3 Other Hazards: None

Section 3 Composition/Information on Ingredients.

<u>Substance</u>	<u>CAS No. / EC Number</u>	<u>%</u>	EU Classification (67/548/EEC)	CLP/GHS Classification (1272/2008)
Synthetic Amorphous	7631-86-9 /	30–40%	Not dangerous	Not hazardous

Silica (synthetic amorphous silica)	231-545-4			
Methylsilylated Silica	68909-20-6 / 272-697-1	10-20%	Not dangerous	Not hazardous
Fibrous Glass (textile grade)	Not Applicable	40-50%	Not dangerous	Not hazardous
Iron Oxide (iron (III) oxide)	1309-37-1 / 215-168-2	1-10%	Not dangerous	Not hazardous
Aluminum trihydrate (aluminum hydroxide)	21645-51-2 / 244-492-7	1-5%	Not dangerous	Not hazardous
Other components are either non-hazardous ingredients or are below the concentration limit for classification.	Mixture	Balance	Not dangerous	Not hazardous

See Section 16 for full text of GHS and EU Classifications.

Section 4 First-Aid Measures.

4.1 Description of 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.

Eyes: 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.

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

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

4.2 Most Important symptoms and effects, both 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 temporary upper respiratory tract irritation. Handling may cause dryness and irritation of the skin.

4.3 Indication of any immediate medical attention and special treatment needed: Immediate medical attention is generally not required.

Section 5 Fire-Fighting Measures.

5.1 Extinguishing Media: Use media appropriate for surrounding fire.

5.2 Special 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.

5.3 Advice for Fire-Fighters: Normal firefighting procedures should be followed to avoid inhalation of smoke and gases produced by a fire.

Section 6 Accidental Release Measures.

6.1 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.

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

6.3 Methods and Material 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.

6.4 Reference to Other Sections: Refer to Section 8 for personal protective equipment and Section 13 for disposal information.

Section 7 Handling and Storage.

7.1 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 reused in secondary applications. Scrap material should be packed for disposal. Avoid dust contact with eyes, skin and clothing and avoid breathing dust. Wash hands with soap and water after handling.

7.2 Conditions for Safe Storage, Including any Incompatibilities: Keep tightly closed in the packaging until ready for use. Store in a dry location.

7.3 Specific end use(s):

Industrial uses: Insulation

Professional uses: Insulation.

Section 8 Exposure Controls/Personal Protection

8.1 Control Parameters:

Synthetic Amorphous Silica (as PNOC)	3 mg/m ³ TWA Belgium OEL (respirable aerosol) 10 mg/m ³ TWA Belgium OEL (inhalable aerosol) 5 mg/m ³ TWA France OEL (respirable aerosol) 10 mg/m ³ TWA France OEL (inhalable aerosol) 1.5 mg/m ³ TWA DFG MAK (respirable aerosol) 4 mg/m ³ TWA DFG MAK (inhalable aerosol) 4 mg/m ³ TWA UK WEL (respirable aerosol) 10 mg/m ³ TWA UK WEL (inhalable aerosol)
Methylsilylated Silica (as PNOC)	3 mg/m ³ TWA Belgium OEL (respirable aerosol) 10 mg/m ³ TWA Belgium OEL (inhalable aerosol) 5 mg/m ³ TWA France OEL (respirable aerosol) 10 mg/m ³ TWA France OEL (inhalable aerosol) 1.5 mg/m ³ TWA DFG MAK (respirable aerosol) 4 mg/m ³ TWA DFG MAK (inhalable aerosol) 4 mg/m ³ TWA UK WEL (respirable aerosol) 10 mg/m ³ TWA UK WEL (inhalable aerosol)
Fibrous Glass (textile grade)	1 fibre/cm ³ TWA Belgium OEL 1 fibre/cm ³ TWA France OEL
Iron Oxide (iron (III) oxide)	10 mg/m ³ TWA Belgium OEL 5 mg/m ³ TWA, 10 mg/m ³ STEL UK WEL
Aluminum trihydrate (aluminum hydroxide)	10 mg/m ³ TWA Belgium OEL (respirable) 1.5 mg/m ³ TWA DFG MAK (respirable aerosol) 4 mg/m ³ TWA DFG MAK (inhalable aerosol)

Refer to specific country legislation

8.2 Exposure Controls:

Recommended Monitoring Procedures: Collection on filters with gravimetric analysis. Refer to BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.

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.

Personal Protective 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, fit and use in accordance with local and

national regulations.

Skin protection: Impervious gloves complying with EN 374 recommended for handling product. Long-sleeved and long-legged work clothing are also advised.

Eye protection: Safety glasses with side shields or dust goggles in compliance with EN 166 recommended.

Other: None known.

Section 9 Physical and Chemical Properties.

9.1 Information on basic Physical and Chemical Properties

Appearance: Maroon fabric

Odor: Slight ammonia

Odor threshold: 0.6-53 ppm (ammonia)

Melting point/freezing point: Not determined °C

Flash point: Not applicable

Flammability (solid, gas): Not flammable

Flammable limits: LEL: Not applicable

Vapor pressure: Not applicable

Relative density: Not determined

Partition coefficient: n-octanol/water: Not available

Decomposition temperature: Not determined

Explosive Properties: None

pH: Not applicable

Boiling point: Not applicable

Evaporation rate: Not applicable

UEL: Not applicable

Vapor density (air = 1): Not applicable

Solubility In Water: Insoluble in water

Auto-ignition temperature: Not applicable

Viscosity: Not applicable

Oxidizing Properties: None

9.2 Other Information: None available

Section 10 Stability and Reactivity.

10.1 Reactivity: Not reactive under normal conditions of use.

10.2 Chemical stability: Stable

10.3 Possibility of hazardous reactions: None known.

10.4 Conditions to avoid: Avoid prolonged exposure above the recommended use temperature.

10.5 Incompatible materials: None known.

10.6 Hazardous decomposition products: Under recommended usage conditions, hazardous decomposition products are not expected.

Section 11 Toxicological Information.

11.1 Information on Toxicological Effects:

Potential Health Effects:

Inhalation: Inhalation of dust may cause temporary 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 temporary 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 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.

Section 12. Ecological Data.

12.1 Ecotoxicity: No data is available

12.2 Persistence and degradability: Biodegradation is not applicable to inorganic substances.

12.3 Bioaccumulative potential: No data available

12.4 Mobility in soil: No data available

12.5 Results of PBT and vPvB assessment: Not required.

12.6 Other adverse effects: Not required.

Section 13. Disposal Considerations.

13.1 Waste Treatment Methods: Dispose in accordance with all national and local regulations.

Section 14. Transport Information.

	14.1 UN Number	14.2 UN Proper Shipping Name	14.3 Hazard Class(s)	14.4 Packing Group	14.5 Environmental Hazards
US DOT		Not Regulated			
Canadian TDG		Not Regulated			
EU ADR/RID		Not Regulated			
IMDG		Not Regulated			
IATA/ICAO		Not Regulated			

14.6 Special precautions for User: Not applicable

14.7 Transport in Bulk According to Annex III MARPOL 73/78 and the IBC Code): Not applicable – product is transported only in packaged form.

Section 15 Regulatory Information.

15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture

REACH-Aspen Aerogels' insulating products are articles.

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59): This product does not contain substances of very high concern

German WGK: Not Hazardous to waters

16. Other Information.

EU Classes and Risk Phrases for Reference (See Sections 2 and 3)

None

CLP/GHS Classification and H Phrases for Reference (See Section 3)

None

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