

SAFETY DATA SHEET

AIRLOY® X103

1. IDENTIFICATION

PRODUCT NAME: Airloy® X103

Density Classes: UL (typical value 0.03 g cm⁻³)
XL (typical value 0.08 g cm⁻³)
L (typical value 0.10 g cm⁻³)
M (typical value 0.20 g cm⁻³)
H (typical value 0.40 g cm⁻³)
XH (typical value 0.50 g cm⁻³)

Note: the following information is applicable to each and all density classes listed above, as well as any custom density of the Airloy X103 material system.

MANUFACTURER/SUPPLIER INFORMATION:

Name: Aerogel Technologies, LLC
Address: Boston, MA 02136
Telephone: (888) X-AEROGEL
(888) 923-7643
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Email: safety@aerogeltechnologies.com
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IDENTIFIED USE: Insulation, engineering material

RECOMMENDED RESTRICTIONS: None known

2. HAZARD(S) IDENTIFICATION

EMERGENCY OVERVIEW

OSHA Hazards: No known or identified OSHA hazards

GHS Hazards: No known or identified GHS dangerous substances

Hazard pictograms: Not applicable

HMIS CLASSIFICATION (scale 0-4):

| | |
|-------------------|---|
| Health Hazard: | 0 |
| Flammability: | 0 |
| Physical Hazards: | 0 |

The production of this material uses precursors with the following GHS dangerous substance codes. All precursors are expected to be removed during processing, but this has not been confirmed at the time of publishing:

PRECAUTIONARY HAZARDS:

P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.

POTENTIAL HEALTH EFFECTS:

| | |
|------------|---|
| Inhalation | Dust may be harmful if inhaled. May cause respiratory tract irritation. |
| Ingestion | Dust may be harmful if swallowed. |

3. COMPOSITION/INFORMATION OF INGREDIENTS

| | |
|----------------|------------------|
| CHEMICAL NAME: | N/A |
| SYNONYM(S): | Polyurea aerogel |
| CAS-No.: | 37955-36-5 |

4. FIRST AID MEASURES

IF INHALED: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Seek medical advice.

IN CASE OF SKIN CONTACT: Wash off with soap and plenty of water. Seek medical advice.

IN CASE OF EYE CONTACT: Flush eyes with water as a precaution. Seek medical advice.

IF SWALLOWED: Never give anything by mouth to an unconscious person. Rinse mouth with water. Seek medical advice.

MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED:

No further relevant information available

INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED:

No further relevant information available

5. FIREFIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA:

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

HAZARDOUS COMBUSTION PRODUCTS:

No data available. Treat material as having potential for emission of toxic gases upon combustion.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTING:

Wear self-contained breathing apparatus for firefighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS:

Avoid formation of dust.

ENVIRONMENTAL PRECAUTIONS:

Dispose of as with plastic waste. Material is non-recyclable. Non data on long-term environmental impact/dangers. Do not let material enter drains.

METHODS/MATERIALS FOR CONTAINMENT AND CLEAN-UP:

Sweep up and shovel. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

SAFE HANDLING PRECAUTIONS:

Provide appropriate exhaust ventilation at places where dust is formed. Normal measure for preventive fire protection.

CONDITIONS FOR SAFE STORAGE:

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

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

The final material is not expected to contain any substances with occupational exposure limit values. No data is available at time of publication on residual precursors in material.

PERSONAL PROTECTIVE EQUIPMENT:

Respiratory protection:

Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection:

Handle with 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.

Eye protection:

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

Skin and body protection:

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene protection:

General industrial hygiene practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:

Form: solid

Color: white

GENERAL INFORMATION:

| | |
|--------------------------------------|--|
| Melting point/freezing point: | No data available |
| Initial boiling point/boiling range: | No data available |
| Flash point: | No data available |
| Ignition temperature: | No data available |
| Auto-ignition temperature: | No data available |
| Evaporation rate | No data available |
| Decomposition temperature: | No data available |
| Flammability (solid, gas): | May form combustible dust concentrations in air |
| Lower explosion limit: | No data available |
| Upper explosion limit: | No data available |
| Vapor pressure: | <0.01 hPa (<0.01 mmHg) at 20 °C (68 °F) |
| Density: | (Specified for each density class) UL (typical value 0.03 g cm ⁻³) XL (typical value 0.08 g cm ⁻³) L (typical value 0.010 g cm ⁻³) M (typical value 0.20 g cm ⁻³) H (typical value 0.40 g cm ⁻³) XH (typical value 0.50 g cm ⁻³) |
| Viscosity: | infinite (solid) |
| Water solubility: | insoluble |
| Partition coefficient: | No data available (n-octanol/water) |
| Odor: | odorless |
| Odor threshold: | No data available |
| pH value: | Not applicable |

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY:

Stable under recommended storage conditions

POSSIBILITY OF HAZARDOUS REACTIONS:

No data available

CONDITIONS TO AVOID:

No data available

MATERIALS TO AVOID:

Strong oxidizing agents or substances that combine explosively with organic compounds.

HAZARDOUS DECOMPOSITION PRODUCTS:

No data available.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

| | |
|--------------------------------------|-------------------|
| Oral LD50: | No data available |
| Inhalation LC50: | No data available |
| Dermal LD50: | No data available |
| Other information on acute toxicity: | 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:

| | |
|--------|-------------------|
| IARC: | No data available |
| ACGIH: | No data available |
| NTP: | No data available |
| OSHA: | No data available |

REPRODUCTIVE TOXICITY: No data available

TERATOGENICITY: No data available

SPECIFIC TARGET ORGAN TOXICITY – SINGLE EXPOSURE (GLOBALLY HARMONIZED SYSTEM):

No data available

SPECIFIC TARGET ORGAN TOXICITY – REPEATED EXPOSURE (GLOBALLY HARMONIZED SYSTEM):

No data available

ASPIRATION HAZARD:

No data available

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.

Synergistic effects: No data available

ADDITIONAL INFORMATION:

RTECS: No data available

12. ECOLOGICAL INFORMATION

TOXICITY:

No data available

PERSISTENCE AND DEGRADABILITY:

No data available

BIO-ACCUMULATIVE POTENTIAL:

No data available

MOBILITY IN SOIL:

No data available

PBT AND VPVB ASSESSMENT:

No data available

OTHER ADVERSE EFFECTS:

No data available

13. DISPOSAL CONSIDERATIONS

PRODUCT:

Offer surplus and non-recyclable materials to a licensed disposal company.

CONTAMINATED PACKAGING:

Dispose of as unused product.

14. TRANSPORT INFORMATION

| | |
|--|----------------|
| UN number: | Not applicable |
| (DOT, AND, IMDG, IATA) UN proper shipping name: | Not applicable |
| (DOT, AND, IMDG, IATA) Transport hazard class(es): | Not applicable |
| (DOT, AND, IMDG, IATA) Packing Group: | Not applicable |
| (DOT, AND, IMDG, IATA) Environmental hazards: | Not applicable |
| Special precautions for user: | Not applicable |
| Transport in bulk (Annex II of MARPOL 73/78) | Not applicable |
| IBC Code | Not applicable |
| Marine Pollutant IMDG Code | No |

15. REGULATORY INFORMATION

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, PENNSYLVANIA, NEW JERSEY RIGHT TO KNOW COMPONENTS:

Component: Polyimide

CAS: 62929-02-6

CALIFORNIA PROP. 65 COMPONENTS:

To best of our knowledge, this product does not contain chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm

16. OTHER INFORMATION

Date of preparation / last revision: 05/16/2018

FURTHER INFORMATION:

The information contained within this MSDS document is believed to be correct and accurate, but does not purport to be inclusive or comprehensive and should only be used as a guide. The information contained within this document is based on the present state of knowledge but does not represent a guarantee of properties or safety. Aerogel Technologies LLC assumes no legal responsibility for use of the information contained within this MSDS and furnishes no warranty, expressed or implied, for the material.