

1. IDENTIFICATION

Product identifier:	Pureflex®
Synonyms:	None
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Emergency phone number:	International (AGITEC Switzerland): (+41) 44 316 63 73
Recommended use:	High performance insulation material
Restrictions on use:	None.
Document version:	1.1
Revision date:	19/April/2021
Regulation:	(EC) No 1907/2006 and 453/2010 (REACH)

2. HAZARDS IDENTIFICATION

Classification:

Physical	Health	Environmental
Not Hazardous	Not Hazardous	Not Hazardous

Label Elements

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

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS Number	%	EU Classification (1272/2008)
Synthetic Amorphous Silica	7631-86-9	30-50%	Not Hazardous
Polyurethane foam	9009-54-5	30-70%	Not Hazardous

4. FIRST AID MEASURES

General acute and delayed symptoms and effects:

Silica aerogels repel water (hydrophobic) and absorb lipids (lipophilic), therefore, dust may cause temporary drying and irritation of eyes, skin and respiratory system, if inhalation occurs, particularly to the upper respiratory tract, but also other mucous membranes.

Description of First Aid Measures:

Inhalation:	If dust is inhaled, move to fresh air. Blow nose and drink several glasses of water to clear throat. Seek medical attention if symptoms persist or irritation occurs.
Skin contact:	Wash skin thoroughly with soap and water. If irritation, swelling, itching, or burning

occurs, seek medical attention. Wash clothing before reuse.

Eye contact: Do not rub eyes and flush them immediately with large amounts of water. If irritation, swelling, itching or other disturbances persists, seek medical attention.

Ingestion: Take several glasses of water if conscious. Do not induce vomiting.

5. FIRE INFORMATION AND FIRE-FIGHTING MEASURES

Flash Point: Not applicable

Explosion Limits in Air - Lower (g/m³): Not determined

Method:

Autoignition Temperature: 200°C

Method: ASTM D-1929

Minimum Ignition Energy: Not determined

Method:

Burn Velocity: Not determined

Method:

Fire hazard: The product is combustible and causes intense heat and smoke when burning.

Extinguishing Media: Use extinguishing measures or media suitable the local circumstances and the surrounding environment. Place insulating material away from combustible materials and cool the product with water if the material is hot.

Special Protective Equipment: Wear suitable firefighting protective equipment, avoiding inhalation of gases and smoke produced by the fire.

Hazardous Decomposition and/or Combustion Products: Carbon monoxide, carbon black, carbon dioxide, organic products of decomposition, formaldehyde, nitrogen oxides, aldehydes, organic acids, hydrocarbons, hydrogen cyanide, dense smoke, irritating and toxic fumes.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Provide adequate ventilation, avoiding dust cloud formation. Use

personal protective equipment as described in Section 8. Maintain away any source of ignition.

Cleaning: Use a suitable vacuum cleaner promptly. Avoid any dust cloud generation from the use of brushes or compressed air. Transfer all residues to a properly labeled container and dispose according to Section 13.

Environmental Precautions: No special environmental precautions required. Local authorities should be advised if significant spillages cannot be contained. Material is not soluble in water.

7. HANDLING AND STORAGE

Handling: Pureflex blankets and boards may generate dust when handled. Control the workplace to avoid exposures to all dusts with standard industrial hygiene practices. Preferred method for primary dust

control should be a local exhaust. Clean promptly any dust generated when handling the product, preferably through dry vacuuming method. If use of water is required, soap should be used for effective dust control, in order to overcome the hydrophobic nature of the aerogel. To help minimizing areas with dust exposure, the material should be unpacked directly in the work area. material in the work area. Scrap material should be disposed. If leftovers are still to be reused, store them in a place that properly contain any possible generated dust. Avoid breathing and direct contact of dust with skin, eyes and clothing. Wash hands and clothes with soap and water after handling.

Storage:

Keep the material in containers tightly closed, placing them in a dry, cool and well-ventilated place, away from heat and fire sources. Avoid storing the material where contact with direct sunlight can occur, as UV rays may cause surface discoloration. Avoid storage of Pureflex together with volatile chemicals as they may be adsorbed onto the product.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limits for silica:

Amorphous Silica, The regulatory exposure limits are found under the general silica, CAS RN 7631-86-9:

Australia:	2 mg/m ³ , TWA, Respirable
Austria MAK:	4 mg/m ³ , TWA, Inhalable fraction
Finland:	5 mg/m ³
Germany TRGS 900:	4 mg/m ³ , TWA, Inhalable fraction
India:	10 mg/m ³ , TWA
Ireland:	2.4 mg/m ³ , TWA, Respirable dust
Norway:	1.5 mg/m ³ , TWA, Respirable dust
Switzerland:	4 mg/m ³ , TWA
UK WEL:	6 mg/m ³ , TWA, Total inhalable fraction 2.4 mg/m ³ , TWA, Respirable fraction
US OSHA PEL:	6 mg/m ³

Dust, or Particulates Not Otherwise Specified:

US ACGIH – TLV:	10 mg/m ³ , TWA, Inhalable 3 mg/m ³ , TWA, Respirable
Belgium:	10 mg/m ³ , TWA, Inhalable 3 mg/m ³ , TWA, Respirable
China:	8 mg/m ³ , TWA 10 mg/m ³ , STEL
Italy:	10 mg/m ³ , TWA, Inhalable 3 mg/m ³ , TWA, Respirable
Malaysia:	10 mg/m ³ , TWA, Inhalable 3 mg/m ³ , TWA, Respirable
Spain:	10 mg/m ³ , VLA, Inhalable 3 mg/m ³ , VLA, Respirable
France:	10 mg/m ³ , TWA Inhalable dust 5 mg/m ³ , TWA Respirable dust

MAK: Maximale Arbeitsplatzkonzentration (Maximum Workplace Concentration)

OEL: Occupational Exposure Limit

PEL: Permissible Exposure Limit

STEL: Short Term Exposure Limit

TLV: Threshold Limit Value

TRGS: Technische Regeln für Gefahrstoffe (Technical Rule for Hazardous Materials)

TWA: Time Weighted Average

US ACGIH: United States American Conference of Governmental Industrial Hygienists

US OSHA: United States Occupational Safety and Health Administration

VLA: Valore Limite Ambientales (Environmental Limit Value)

WEL: Workplace Exposure Limit

Engineering controls: Provide adequate local exhaust ventilation to minimize exposures below occupational limits, in especially where product is processed in and dust can be generated.

Individual protection measures:

Respiratory protection: Appropriate certified particulate respirator is recommended when exposures limits are reached due to insufficient local exhaust ventilation, especially if the inhalation of dust generates irritation.

Skin and hand protection: Suitable gloves are recommended for handling product, to avoid skin dryness due to repeated exposure. Work clothing such as long-sleeves and pants are also advised.

Eye protection: Recommended use of safety glasses with side shields or dust goggles.

Other: Good industrial hygiene and safety practice as a general rule. It is recommended to have nearby eyewash and a safety shower.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance/physical form:	White yellowish blanket or board (solid, flexible)
Odor:	None.
pH:	Not applicable
Vapor Pressure:	Not applicable
Decomposition temperature:	Above 180°C
Stability:	Stable at temperatures between -40 and 100°C
Boiling Point/Range:	Synthetic Amorphous Silica: 2230°C after partial decomposition Polyurethane foam: Not available
Melting Point/Range:	Synthetic Amorphous Silica: 1700°C after partial decomposition Polyurethane foam: None but will decompose into gaseous components
Water Solubility:	Insoluble
Relative Density:	60 - 300 kg/m ³ @ 20°C
% Volatile (by Volume):	Negligible
Evaporation Rate:	Not applicable
Viscosity:	Not applicable
Partition Coefficient (n-octanol/water):	Not determined
Flash Point:	Not applicable

Explosion Limits in Air - Lower (g/m³):	220 g/m ³ (dust)
Auto-ignition Temperature:	200 °C
Method:	ASTM D-1929

10. PHYSICAL AND CHEMICAL PROPERTIES

Reactivity:	Not reactive under normal conditions of use.
Chemical stability:	Stable.
Possibility of hazardous reactions:	None known.
Conditions to avoid:	Flame and prolonged exposure above the recommended use temperature should be avoided.
Incompatible materials:	None known.

11. TOXICOLOGICAL INFORMATION

Acute effects of exposure:

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 (International Agency for Research on Cancer), NTP (National Toxicology Program), OSHA (Occupational Safety and Health Administration), ACGIH (American Conference for Governmental Industrial Hygienists) or EU (European Union).
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

Product should be disposed in an approved landfill in accordance with federal, state / provincial, and local regulation. Avoid dust generation by covering the product promptly.

14. TRANSPORT INFORMATION

Product not classified as dangerous according to transport regulations.

15. REGULATORY INFORMATION

Input for external Material Data Systems or for PU foam convertors

Flexible polyurethanes are polymers and defined in Data Systems, i.e. IMDS, as a product, not as a chemical compound. In terms of REACH polyurethane foam is defined as "article".

For the manufacturing of PU foam, a series of raw materials are used. These include isocyanates, polyols (Major portion) and water (small portion). These ingredients react fully during foam manufacturing and are chemically converted into the PU polymer matrix. In addition, other essential additives of different characteristics are used in small concentrations, some of which could also be chemically bonded into the matrix.

Depending on the final application, legal requirements or customer`s requests PU foam may contain any of the following substances:

- Aliphatic and/or cycloaliphatic amine catalysts
- Flame-retardants
- Polysiloxane compounds
- Inorganic metal catalysts
- Organic and/or inorganic pigments

Additives, which prohibit the rebonding recycling route, are not present. Substances like Hg, Cd, Pb und Cr6+ are not intentionally added to the formulation. When reporting to customers in the automotive sector the use of IMDS is required. Besides the material PU foam, additives are to be reported according to the requirements of GADSL.

GADSL = Global Automotive Declarable Substance List / List of declarable substances used in automotive parts

Note concerning Regulation (EC) No. 1907/2006 (REACH)

AGITEC is neither a producer nor supplier of chemical substances or mixtures.

As defined by EC 1907/2006 (REACH) AGITEC International AG is a so-called downstream user and producer of products. For these the creation of (material) safety data sheets (MSDS) is not provided.

For products there is only an obligation to provide information if substances from SVHC-list should be included. However, since this is not the case with all AGITEC International AG-products, consequently and in full accordance with REACH-regulation no MSDS exists. Thus the misleading impression should be avoided, that AGITEC International AG products fall within the scope of Reach. In case of changes

AGITEC International AG will meet its obligations and will inform unsolicited, in accordance with the Reach-regulation.

16. OTHER INFORMATION

HMIS Rating

HMIS Index: * - chronic, 0 - minimal, 1 - slight, 2 - moderate, 3 - serious, 4 - severe

Health:	1
Flammability:	2
Physical Hazard:	0

Prepared by: AGITEC International AG

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DISCLAIMER: The information provided in this Safety Data Sheet is believed to be accurate according to AGITEC International AG, as of the effective date given. However, no warranty, expressed or implied, is intended. It is the user's responsibility to ensure that its activities comply with Federal, State or Provincial, and local laws, therefore, AGITEC International AG assumes no legal responsibility for use or reliance thereon.