

# INSULFLEX®



## HAZARD COMMUNICATION SAFETY DATA SHEET

Doc: 2016-12-15.001

### 1. Identification

Product Name: Pyreflect™ Sleeve

Synonyms or Product Family: Continuous Filament E Glass Fiber 65997-17-3  
Poly(terephthaloylchloride/p-phenylenediamine)/para-aramid  
Poly(isophthaloylchloride/mphenylenediamine)/meta-aramid  
N,N- imethylacetamide DMAC

CAS Number: Adhesive Proprietary  
Aluminized polyethylene terephthalate film Proprietary

Recommended use: Heat protection and insulation on hoses and cables

Restriction on use: None known

Manufacturer/ Supplier: **ADL Insulflex, Inc.**  
A member of the ADL Group.

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### 2. Hazards Identification

OSHA/HCS status: While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

Classification of the substance or mixture: Not classified

GHS Label Elements:



Signal Word: Warning

Hazard statements: Not Applicable

Precautionary statements: Not Applicable

Prevention: Not Applicable

Response: Not Applicable

Storage: Not Applicable

Disposal: Not Applicable

Supplemental label elements: Emits toxic fumes when heated.

Hazards not otherwise classified: None Known

### 3. Composition / Information on Ingredients

Component	CAS Number	Weight %
Continuous Filament E Glass <sup>1</sup>	65997-17-3	89%
Poly(terephthaloylchloride/p-phenylenediamine)/para-aramid	Proprietary	
Poly(isophthaloylchloride /mphenylenediamine)/ meta-aramid	Proprietary	
N,N- imethylacetamide DMAC	Proprietary	<1%
Adhesive	Proprietary	
Aluminized polyethylene terephthalate film	Proprietary	9%

Note: \*1 – As manufactured continuous filament glass fibers are not respirable. Continuous filament glass products that are chopped, crushed or severely mechanically processed during manufacturing or use may contain a very small amount of respirable particulate, some of which may be glass shards. See section 8 of Safety Data Sheet for exposure limit data.

Component Related Regulatory Information

This product may be regulated, have exposure limits or other information identified as the following: glass wool fiber, fibrous glass and nuisance particulates.

Component Information/Information on Non-Hazardous Components

No additional information available.

### 4. First Aid Measures

Primary Route of Exposure:  
Inhalation

Inhalation, skin, eye  
Dust and fibers from this product may cause mechanical irritation of the nose, throat and respiratory tract.

Skin Contact

Dust and fibers from this product may cause temporary mechanical irritation to the skin.

Eye Contact

Dust and fibers from this product may cause temporary mechanical irritation to the eyes.

Description of necessary first aid measures:  
Eye:

Flush for 15 minutes with copious amounts of lukewarm water. Seek medical attention if irritation persists.

Skin:

Wash thoroughly with warm water and non-abrasive soap.

Inhalation:

Remove person to fresh air and seek medical attention.

Ingestion:

Ingestion is unlikely. If it does occur, watch for several days to make sure intestinal blockage does not occur. If there is blockage, seek medical attention.

### 5. Fire Fighting Measures

Suitable Extinguishing Media:  
Fire Fighting Procedures:

Water spray; carbon dioxide; dry chemical; foam.

In a sustained fire, use self-contained breathing apparatus.

Unusual Fire and Explosion Hazards:

Meta-aramid fibers is inherently flame resistant; however, if combustible materials are collected on meta-aramid constructions, such as filter media, and exposed to an ignition source, these materials may ignite. Further, the presence of noncombustible dusts such as copper oxide, iron oxide, and lead oxide can negate the inherent flame resistance of meta-aramid. If material ignites, toxic and irritating gases will be emitted. (See Section 10)

An accumulation of p-aramid dust and fly in sufficient concentration could present a fire risk. Para-aramid dust particles are potentially explosive (Class ST 1): keep all sources of ignition away from those areas where concentrations may occur. Take into account the possible effects of an electrostatic charge.

Hazardous thermal decomposition products:

Fiberglass will not burn, but smoking of the product may occur at approximately 400-500 °F (approximately 200-260 °C) due to decomposition of the surface binder. Surface binders may decompose in a fire situation and release carbon monoxide, carbon dioxide and water. Additionally, there are many chemicals that can evolve during any partial decomposition of chemical products. The amounts or identities cannot be predicted and can differ in each situation. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk without suitable training. Fiberglass itself will not support combustion, but in a sustained fire, proper protection against products of combustion from the fuel and sizing/binder must be worn.

Special Protective Equipment and Precautions for Fire Fighters:

## 6. Accidental Release Measures

Material is a solid.

Vacuum or wet-sweep fibrous dust.

## 7. Handling and Storage

Precautions for handling and storage:

Normal warehouse conditions.

### 8. Exposure Controls / Personal Protection

Exposure Limits:

Component Name (CAS #)	OSHA PEL (8hr TWA)	ACGIH TLV (8hr TWA)
Continuous Filament E Glass (65997-17-3)	mg/m <sup>3</sup>	mg/m <sup>3</sup>
Non-respirable fibers and particulate	15 mg/m <sup>3</sup> (total dust)(a)	5 mg/m <sup>3</sup> (inhalable fraction)
Respirable particulate	5 mg/m <sup>3</sup> (respirable dust)(b)	3 mg/m <sup>3</sup> (PNOC)*
Respirable particulate with fiber like dimensions (glass shards)	None Established	1 fiber/cm <sup>3</sup> aspect ratio >5:1
Poly(terephthaloylchloride/p-phenylenediamine) /para-aramid	a	a
Poly(isophthaloylchloride/mphenylenediamine) /meta-aramid	a	a
N,N- imethylacetamide DMAC	10ppm	10ppm
Adhesive	Not Known	Not Known
Aluminized polyethylene terephthalate film	Not Known	Not Known

\*PNOC = Particles not otherwise classified

- a. OSHA has not established a specific PEL (Permissible Exposure Limit) for para-aramid or meta-aramid nor has the American Conference of Governmental Industrial Hygienists (ACGIH) established a TLV (Threshold Limit Value). They are considered to be "particulate not otherwise regulated" (PNOR) and are covered under the OSHA nuisance dust PEL's of 5 mg/m<sup>3</sup> for the respirable dust fraction and 15 mg/m<sup>3</sup> for the total dust fraction for an 8-hr TWA (Time Weighted Average).

IARC rated p-aramid fibrils as ••non-classifiable as to its carcinogenicity for animals and for humans": Class III. However, it is strongly recommended not to exceed 2 RFP/ml as 8 hour TWA, with a concentration of 2.5 RFP/ml (15 min.) as a ceiling value. RFP (respirable, fiber-shaped particulates) are fragments with diameters less than 3µm, lengths up to 100 µm and a length/diameter ratio of at least 3:1.

Engineering controls:

None known

Personal Protective Equipment (PPE):

Loose fitting long sleeved shirt that covers to the base of the neck, long pants and gloves. Skin irritation is known to occur chiefly at pressure points such as around the neck, wrist, waist and between fingers.

Eye and Skin protection:

Safety glasses with side shields or chemical splash goggles must be worn to prevent eye contact. A good safety practice is to have an eye wash station readily available near the work area.

Respiratory protection:

Some applications of these products may not require respiratory protection for fiberglass. However, if airborne fibrous glass concentrations exceed the OSHA permissible limits or if irritation occurs, a properly fitted NIOSH/MSHA approved disposable dust respirator such as the 3M model 8210 (formerly 8710) or model 9900 (in high humidity environments) or equivalent should be used. Use respiratory protection in accordance with your local regulations and OSHA regulations under CFR 1910.134.

Ventilation:

Local exhaust ventilation (if needed) to maintain appropriate airborne dust levels.

## 9. Physical and Chemical Properties

Physical State:	Solid
Colour:	Aluminum exterior/ Yellow/tan coloured interior
Odour:	None
Ordour Threshold:	Not Applicable
pH-value:	Not Applicable
Melting Point:	Thermal degradation with loss of product strength begins above 3QOOC (5720f). PET film melts at 235°C.
Freezing Point:	Not Applicable
Initial Boiling Point/ Boiling Range:	Not Applicable
Flash Point:	Not Applicable
Evaporation Rate:	Not Applicable
Flammability (Solid, Gas):	Not Applicable
Vapour Pressure:	Not Applicable
Vapour Density:	Not Applicable
Relative Density:	Not Applicable
Solubility:	Insoluble
Partition Coefficient:	Not Applicable
Auto-Ignition Temperature:	Not Applicable
Decomposition Temperature:	Not Applicable
Viscosity:	Not Applicable

## 10. Stability and Reactivity

Reactivity:	Not Applicable
Chemical Stability:	Heating material above 250°C will rapidly volatilize NMP .
Possibility of Hazardous Reactions:	None Known
Conditions to Avoid:	Temperatures above 235°C. Strong acids and bases may hydrolyze the PET film.
Incompatible Materials:	Carbon monoxide, carbon dioxide, small amounts of hydrogen cyanide and other hydrocarbons and water
Hazardous Decomposition Products:	Sizings or binders may decompose in a fire. See Section 5 of SDS for information on hazardous combustion products.

## 11. Toxicological Information

Signs and Symptoms of Overexposure:	Material is considered inert.
Acute Effects:	See Section 4
Eye Contact:	See Section 4
Skin Contact:	See Section 4
Inhalation:	See Section 4
Ingestion:	See Section 4

Chronic Effects and Carcinogenicity:  
E-Glass Fiber  
General Product Information

Dusts may cause mechanical irritation of the eyes and skin. Ingestion may cause transient irritation of throat, stomach and gastrointestinal tract. Inhalation may cause coughing, nose and throat irritation, and sneezing. People with pre-existing respiratory conditions, may experience difficulty breathing, congestion and chest tightness.

Fiber Glass Continuous Filament

The International Agency for Research on Cancer (IARC) in June, 1987, categorized fiber glass continuous filament as not classifiable with respect to human carcinogenicity (Group 3). The evidence from human as well as animal studies was evaluated by IARC as insufficient to classify fiber glass continuous filament as a possible, probable, or confirmed cancer causing material.

The American Conference of Governmental Industrial Hygienists (ACGIH) A4 classification, not classifiable as human carcinogen, for respirable continuous filament glass fibers is based on inadequate data in terms of its carcinogenicity in humans and/or animals. For respirable continuous filament glass fibers, a TLV-TWA of 1 fiber/cc was adopted to protect workers against mechanical irritation. The TLV-TWA of 5 mg/m<sup>3</sup> was adopted for nonrespirable glass filament fiber, measured as inhalable dust, to prevent mechanical irritation of the upper respiratory tract.

Products that are chopped, crushed or severely mechanically processed during manufacture or use may contain a very small amount of respirable glass fiber-like fragments. NIOSH defines "respirable fibers" as greater than 5 microns in length and less than 3 microns in diameter with an aspect ratio of  $\geq 5:1$  (length-to-width ratio).

Poly(isophthaloylchloride/mphenylenediamine ) /meta-aramid

Meta-aramid fibers may contain less than 1% residual DMAC. A two-week subchronic test in which mice were exposed to DMAC via inhalation showed liver and testicular effects at high exposure concentrations (300, 500 and 700 ppm) . No adverse effects were observed at 100 ppm.

Poly(terephthaloylchloride/p-phenylenediamine) /para-aramid

Repeated and prolonged inhalation of excessive concentrations of para-aramid respirable fibers may cause permanent lung injury. Short-term inhalation studies in rats and hamsters with an extended follow-up of up to nine months have demonstrated that p-aramid RFP are not biopersistent. Long p-aramid RFP are quickly transversely broken into smaller fragments and then removed from the lung. However, extremely high amounts of inhaled p-aramid RFP may inhibit the clearance mechanisms. Inhalation of high concentrations of RFP causes pulmonary inflammation in rats and hamsters; lifelong exposure to concentrations of 100 and 400 RFP/ml caused pulmonary fibrosis in rats. Only minimal fibrosis was seen at 25 RFP/ml. The fibrosis was largely reversible after cessation of exposure. No malignant tumors resulted from the lifelong inhalation tests in rats. Instead, proliferative cystic tissue changes were observed in rats after exposure to particulates. They occur mainly in (female) rats and have never been observed in human beings. These cysts were subject of scientific debate for an extended period of time, but current consensus holds that they are not malignant and that their occurrence in animals have no relevance to humans. Intraperitoneal injections of excessive amounts of p-aramid RFP caused only a non-significant increase in the observed number of mesotheliomas. The validity of the intraperitoneal test for the prediction of carcinogenicity is questionable.

Medical Conditions Aggravated by Exposure: Chronic respiratory and skin conditions may temporarily worsen from exposure to this product.  
Acute Toxicity Values: None Known

## 12. Ecological Information

No data available for this product.

## 13. Disposal Considerations

Disposal method: Dispose in accordance with federal, state and local regulations as a solid nonhazardous waste. DMAC in wastewater streams contributes to the Biological Oxygen Demand (BOD) but is readily biodegradable in conventional biological sewage treatment systems. Wastewater containing DMAC should be disposed of in accordance with state and local regulations for wastewater discharges .

## 14. Transport Information

UN Number: None  
UN Proper Shipping Name: None  
Transport Hazard Class(es): None  
Packing Group: None  
Environmental Hazards: None  
Transport in Bulk, if Applicable: None  
Special Precautions: None

## 15. Regulatory Information

Safety, health and environmental regulations specific to the product:  
WHMIS Hazard Class: Not known  
Harmonized Code: 5907.00.15.00

## 16. Other

Users are advised to ensure that this information is brought to the attention of their employees handling the product. The information given herein is believed to be reliable. However, ADL Insulflex, Inc. makes no warranties as to its accuracy or completeness and disclaims any liability in connection with its use. ADL Insulflex, Inc.'s obligations shall be only as set forth in ADL Insulflex, Inc.'s standard terms and conditions of sale for this product. In no case will ADL Insulflex, Inc. be liable for any incidental, indirect or consequential damages arising out of the sale, resale, use or misuse of the product.

Users of ADL Insulflex, Inc. products should make their own evaluation to determine the suitability of each such product for the specific application and to establish safe handling and installation procedures.

SDS preparation date:

December 15, 2016