Induction Melting Repairs Limited

INSULFLEX®

Product: Flexgard™ sleeve

MATERIAL SAFETY DATA SHEET

1. Chemical product and Company identification

Emergency contact:	ADL Insulflex, Inc. (address & emergency phone numbers - Page 4)
Revised:	June 2008
Chemical family:	Nylon industrial fiber
Formula:	Proprietary mixture
Description:	Durable Nylon sleeve. Standard colour black; custom colours available.

2. Composition / Information on ingredients

Component	CAS Number	%
Nylon 6,6 Polyamide	32131-17-2	91.5-99
Water, Absorbed	7732-18-5	0-4.5
Finishes (various mixtures of lubricating oils, waxes, and surface action agents)		0-4

3. Hazards identification

Potential health effects:
Ingestion: None known
Skin contact: None known
Eye contact: Possible eye irritation may occur.
Inhalation: Possible throat irritation may occur.
Medical conditions aggravated: None known
Sub-chronic (Target organ) effects: None known
Chronic effects/carcinogenic: None known
Principle routes of exposure: Contact
Other: None known

Nylon fiber products do not pose a hazard. Under normal conditions of use, Nylon fiber does not generate respirable fibers or dust. Particles of Nylon fiber may cause mechanical irritation of the skin and eyes. Except for mechanical irritation of skin and eyes caused by particles, no adverse health effects are expected.

In general, skin irritation has not been produced in human patch tests; however, a small percentage of subjects may respond to prolonged contact with redness of skin. Significant skin permeation and systemic toxicity, after contact appears unlikely.

This product may contain up to 4 percent fiber lubricants. These lubricating oils are toxicologically evaluated prior to commercialization and have been found to be of a low order of acute oral and inhalation toxicity in animals and dermal toxicity in humans and do not present a significant health hazard in their normal handling and use. If a process has the potential to generate airborne quantities of these oils as a mist, we recommend an airborne concentration upper limit of 2 mg/m3 as particulate for "housekeeping" reasons.

4. First aid measures

Inhalation:	Not likely to be hazardous by inhalation. However, if exposed to fumes from overheating or combustion, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call physician if necessary.
Skin contact:	Not likely to be hazardous by skin contact but cleansing the skin after use is advisable.
Eye contact:	Immediately flush eyes with plenty of water for at least 15 minutes. Call physician.
Ingestion:	Not likely to be hazardous by ingestion.

5. Fire fighting measures

Flash point:	420°C (788°F)
Auto Ignition temp.	455°C (851°F)
Method:	ASTM D1929
Auto-decomposition	420°C (788°F) 50%
Auto-decomposition	900°C (1652°F) 96%
Extinguishing media:	Water spray, carbon dioxide, dry chemical, foam.
Special fire fighting procedures:	Remove personnel to a safe area (upwind of fire). Wear self-contained breathing apparatus. Use water spray.

6. Accidental release measures

Material is a solid.	Shovel or sweep up.

7. Handling and storage

Handling:	Avoid contact with eyes. Wash thoroughly after handling.
Storage:	Keep away from open flames and heated surfaces above 200°C. Keep away from strong acids & oxidizing agents.

8. Exposure controls / Personal protection

Personal protective equipment:	Safety glasses with side shields or safety goggles. Wear gloves and clothing as appropriate if potential exists for skin irritation from contact with fibers or particulate.
Exposure guidelines:	
Nylon 6,6 Polyamide	
PEL (OSHA)	None established
TLV (ACGIH)	None established

9. Physical and chemical properties

Melting point:	260 +/- 5°C
Physical state:	Solid
Odor:	Slight
Specific gravity:	1.13 – 1.25
Solubility in water:	0 wt. %
Solubility in organic solvents:	Unknown
Colour:	Black standard (custom by special order)

10. Stability and reactivity

Stability: Stable in normal temperature and storage conditions

Incompatibility with other materials: Can react with strong acids, oxidizing agents

Decomposition: If heated to >254°C degradation can occur and generate off gases which may contain very small amounts of various aldeyhes, alcohols, ketones, organic acids, carbon monoxide, carbon dioxide, oxides of nitrogen, and trace amounts of hydrogen cyanide. The exact chemical composition of these gases will, of course, depend on the conditions of heating (temperature, duration, availability of oxygen). In our experience, we are not aware of chemicals such as these reaching concentrations that present a serious health hazard. However, information on the toxic effects and recommended exposure limits of these an other chemicals can be found in most recent edition of the ACGIH TLV.

Polymerization: Will not occur

11. Toxicological information

Animal data

Eye:	Has not been tested for eye irritation
Skin:	Testing indicates this material is not a skin irritant.
Ingestion:	LD50, Rat: >10,000 mg/kg, extract tested (very low toxicity) Single exposure of high doses caused decreased body weight. Long term exposure caused no significant toxicological effects.
Inhalation:	Four groups of 48 male rats each exposed, nose only, six hours/day, five days/week, for a total of 4 weeks to aerosols of Nylon RFP (respirable-sized, fiber-shaped particulates) at concentrations of 0, 4, 15 and 57 f/cc and the lungs assessed at day 1, 1 week as well as 1, 3, 6 and 12 months post exposure. There were no significant increases in lung weights or evidence of lung inflammation in Nylon- exposed animals. Histopathological analyses have not revealed adverse lower pulmonary or upper respiratory effects.

Repeated exposure to nylon dust: Pathological examination revealed no gross changes, but microscopically, kidney and lung changes were observed.

Additional toxicological effects:	In animal testing this material has not caused carcinogenicity. No animal data are available to define developmental toxicity, reproductive toxicity, or mutagenicity.
Human patch test:	Skin irritation has not normally been observed in human patch tests, however a small percentage of subjects may respond to prolonged contact with redness of skin. In these test there are no indications of human sensitization.

12. Ecological information

Ecotoxicological information

Aquatic toxicity:	Toxicity is expected to be low based on insolubility in water.

13. Disposal considerations

Disposal method:	Treatment, storage, transportation and disposal must be in accordance with applicable Federal/ State/Provincial and local regulations. Nylon is not readily biodegradable. It contains no significant percentage of materials leachable in water.

14. Transport information

Shipping information	Not regulated

15. Regulatory information

WHMIS Hazard Class:	Not known
Harmonized Code:	5911.90

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.

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