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ESTABLISHED 1932

MATERIAL SAFETY DATA SHEET

HZF -Hydlar Z, ZF, ZT, ZM

EMERGENCY TELEPHONE:	(856) 227-0500
Issue Date:	June 9, 1995
Revised Date:	June 9, 2000
TRADE NAME:	Hydlar Z, ZF, ZT, ZM
CHEMICAL NAME:	Aramid Reinforced Polyamide
PART NAME:	HZFR, HZFS, HZTFR, HZTFS, HZMFR, HZMFS

1. PHYSICAL DATA Composition / Information on Ingredients

CAS Registry Number: 32131-17-2 (Base Resin)
CAS Registry Number: 26125-61-1 (Aramid Fibre)

This is a polymeric material. All constituents are wetted by the polymer system, and therefore, present no likelihood of exposure under normal conditions of processing and handling. This product is not hazardous as defined by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

2. Hazards Identification Emergency Overview

Appearance and odor: Odorless pellets of various colors. Combustion and decomposition may produce hazardous fumes. Polymer dust/powder has a US Bureau of Mines relative dust explosion hazard rating of weak. Molten material can cause thermal burns on contact with skin or eyes. Spilled pellets may create a slipping hazard.

3. Potential Health Effects Route of Exposure

Skin and eye contact.

Signs and Symptoms of Exposure: No specific information available.

Immediate Effects
Skin: Reinforcing fibers, which may be present, can cause mechanical irritation. Hot or molten material has the potential to cause thermal burns.
Eyes: Polymer particles and reinforcing fibers, which may be present, can cause mechanical irritation.
Inhalation: No specific information available. Pellets are not considered an inhalation hazard; polymer particulates may be considered an inert nuisance particulate. Overheating in processing may generate hazardous fumes.
Ingestion: No specific information available, however, low toxicity by this route is expected based on the biological activity of high molecular weight polyamides.

Delayed/Long Term Effects
No specific information available

4. First Aid Measures

Skin: If skin becomes irritated, wash thoroughly with soap and water. Seek medical attention if irritation persists. If hot or molten polymer or hot vapors contact skin, cool rapidly with cold water. If polymer is stuck to skin, do not remove. Seek medical attention. Allow adhered polymer to come off naturally. Removal of adhered polymer may result in more tissue damage than if polymer is allowed to come off over time.

Eyes: Flush with plenty of water. Seek medical attention if discomfort persists, and to remove foreign body.

Inhalation: Remove to fresh air. Seek medical attention if difficulties in breathing occur.

Ingestion: If a significant quantity has been swallowed, give two glasses of water to dilute. Seek medical attention.

Note to Physicians: This product is essentially inert and nontoxic. However, if it is heated at too high a temperature or if it burns, gases may be released. Based on the amounts likely to be released, carbon monoxide and the nitrogen oxides are the most likely to cause clinically significant toxicity. Patients who have been exposed to off-gases may need to have their carboxyhemoglobin levels and arterial blood gases checked. In the event that the carboxyhemoglobin levels are normal in an acidotic patient, consider cyanide toxicity. If the exposure occurred in an enclosed space, asphyxia (carbon dioxide replacing oxygen) is a possibility. The nitrogen oxides are severe respiratory tract irritants. If patients may have inhaled high concentrations of irritating fumes, monitoring for delayed onset pulmonary edema should be considered.

5. Fire Fighting Measures

Flammable Properties
Flashpoint > 93 deg C {>200 deg F}
Flashpoint Method: Tag closed cup
Polymer dust/powder has a US Bureau of Mines relative dust explosion hazard rating of weak.

Hazardous Products Of Combustion
Carbon monoxide, carbon dioxide and oxides of nitrogen.

Extinguishing Media: Water spray, foam, carbon dioxide, or dry chemical.

Fire Fighting Instructions: Firefighters should wear self-contained breathing apparatus and full fire-fighting turn-out gear (bunker gear). Keep personnel removed from and upwind of fire. Water should be used to keep fire-exposed containers cool. Water, foam and dry chemical may cause damage to electrical equipment.

6. Accidental Releases Measures

Procedures In Case Of Spill Or Leak: Prevent pellet loss. Sweep or gather up spills and place in proper container for recovery or disposal.

7. Handling Or Storage

Handling: Do not handle hot or molten material without appropriate protective equipment. Maintain good housekeeping in work areas. Do not exceed recommended process temperatures to minimize release of decomposition products. Do not smoke in areas where polymer dust is present. Appropriate measures should be taken to control the generation and accumulation of dust during conveying and processing operations.

Storage: Store in a cool dry place. Maintain dryness of resin.

8. Exposure Controls / Personal Protection

Engineering Controls
Local Exhaust: Recommended when appropriate to control employee exposure to dust or process vapors.
General: May not be adequate as the sole means to control employee exposure.

Protective Equipment
Skin: When thermal or melt processing, wear long pants, long sleeves, well insulated gloves, and face shield when there is a chance of contact.
Eyes: Safety eyewear recommended.
Inhalation: A NIOSH approved respirator is recommended if there is a possibility of dust generation above permissible exposure limits or that decomposition vapors may be generated.
Exposure Guidelines: Any glass particles in this product are wetted by the polymer system. Residual glass {<1%} may be present and cause mechanical eye, skin, and respiratory irritation. Operations involving grinding and machining of parts should be reviewed to assure that particulate levels are kept below recommended standards.

Permissible Exposure Limits
OSHA PEL {nuisance/inert dust}
: 15 mg/cu m {total}
5 mg/cu m {respirable}
ACGIH TLV {nuisance particulates} **
: 10 mg/cu m {total}

9. Physical And Chemical Properties

Appearance:	Pellets
Odor:	Essentially odorless
Physical State:	Solid
Vapor Pressure:	< 0.001 mmhg
Melting Point:	265.0 C {509.0 F}
Solubility:	< 0.001 wt. % {in water}
Specific Gravity:	1.1 to 1.5
% Volatiles:	< 0.5

10. Stability And Reactivity

Chemical Stability: Stable
Conditions To Avoid: Do not heat above 650 deg F { 343 deg C}. Avoid prolonged exposure to temperatures above 600 deg F { 316 deg C}.
Incompatibility: Strong acids and oxidizing agents. Hazardous Decomposition Products: Carbon monoxide, ammonia, aliphatic amines, amides, ketones, nitriles, and hydrogen cyanide.
Hazardous Polymerization: Will not occur.
Toxicological Information: No information available

11. Ecological Information

Ecotoxicity: The effects of resin pellets on the wildlife that may ingest them is not well understood. In the case of seabirds, some marine biologists believe that the fowl may not be able to pass plastic pellets through their digestive tracts. Thus, large quantities of ingested pellets may cause intestinal blockage, False feelings of satiation or reduction in absorption of nutrients, causing malnutrition and starvation. The goal of SPI's Operation Clean Sweep is zero loss of pellets into the environment.

12. Environmental Fate/Information

This material is considered not to be biodegradable.
Disposal Considerations: Recycling is encouraged. Incinerate or landfill in accordance with Federal, state, and local regulations. This product as shipped is not a RCRA hazardous waste under present EPA regulations.
Transport Information: DOT proper shipping name: Not regulated.

13. Regulatory Information

U.S. Federal Regulations: All the components of this product are listed on the TSCA Inventory. This product does not contain any toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 and of 40 CFR 372.

This material safety data sheet and the information it contains is offered to you in good faith as accurate. We have reviewed any information contained in this data sheet which we received from sources outside our company. We believe this information to be correct but cannot guarantee its accuracy or completeness. Health and safety precautions in this data sheet may not be adequate for all individuals and/or situations. It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. No statement made in this data sheet shall be construed as a permission or recommendation for the use of any product in a manner that might infringe existing patents. No warranty is made, either expressed or implied.