MATERIAL SAFETY DATA SHEET
GENERAL PURPOSE POLETHER POLYURETHANE FILMS
SHEATHES NON-LATEX ULTRASOUND PROBE COVERS
PRODUCT NUMBER: All Latex Free Ultrasound Probe Covers
Manufactured by: Sheathing Technologies, Inc. 18431 Technology Dr. Morgan Hill, CA 95037

MSDS NO. D-0003A Issue Date: January 21, 1999

The data in this bulletin apply to the above-referenced SHEATHES NON-LATEX ULTRASOUND PROBE COVERS thermoplastic polyurethane films. SHEATHES NON-LATEX ULTRASOUND PROBE COVERS polymer and the additives used to manufacture compounds are listed in the U.S.E.P.A. Inventory of Chemical Substances Toxic Substances Control Act.

SHEATHES NON-LATEX ULTRASOUND PROBE COVERS compounds are mixtures of polyurethane polymer and proprietary process and/or performance additives such as processing aid, heat stabilizer, lubricants, pigment, or other ingredients. Additives chosen for a specific compound will vary according to processing and final product requirements. These compounds are processed from a granular resin state to a film state via extrusion techniques.

SECTION I

Manufacturer
Sheathing Technologies, Inc.

Chemical Name/Synonym
Thermoplastic polyurethane film

CAS Registry No.
Not applicable to physical mixtures

Transportation Emergency Telephone
800-873-3776

Composition
Thermoplastic polyurethane polymer
and proprietary process and performance additives

SECTION II – HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

-This product contains the following substance(s) subject to Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) and 40 CFR372 at or above de minimus amounts: None known.

-This product is a solid material (e.g., diced/granule/pellet/chopped strand). All components are physically bound in the matrix during our manufacturing process and are not expected to create an exposure to individual components when the product is handled at ambient temperatures. Melt processing can generate harmful off-gasses, which may include isocyanates (See Section V).

SECTION III – PHYSICAL/CHEMICAL CHARCTERISTICS (Typical data, not specifications)

Solubility in Water	Melt Processing Temp.	Specific Gravity (H_20=1)
Insoluble	>350ºF (>177ºC)	1.1-1.3

Other
Characteristics such as boiling point, vapor Pressure; vapor density, and evaporation rate Are not applicable to this product.

Appearance and Odor
Pigmented or Unpigmented solid diced/granules/ Pellets/chopped strands. Variable colors. Faint odor.

SECTION IV – FIRE AND EXPLOSION HAZARD DATA

Flash-Ignition Temp.*	Self-Ignition Temp.*	Flammable Limits in Air
740-760ºF (393-404ºC)**	765-970ºF (407-521ºC)**	(% by volume) Lower = NA Upper = NA

* Expected range. Ignition properties have not been determined for each specific product (mixture).
** ASTM D-1929
NA = Not Applicable

Flash-ignition temperature is the lowest initial temperature of air passing around the specimen at which sufficient combustible gas is evolved to be ignited by a small external pilot flame. Self-ignition temperature is the lowest initial temperature of air passing around the specimen at which, in the absence of an ignition source, ignition occurs of itself, as indicated by an explosion, flame or sustained glow.

Extinguishing Media

Water, ABC dry chemical, AFFF, and protein type air foams. Estane² thermoplastic polyurethane compounds are “ordinary combustibles” (NFPA defined Class A). Carbon Dioxide is not generally recommended for use in Class A fires as a lack of cooling capacity may result in reignition.

Special Firefighting Procedure
Wear self-contained breathing apparatus (SCBA) equipped with a full facepiece and operated in a pressure-demand mode or other positive-pressure mode and protective clothing. Personnel not having suitable respiratory protection must leave the area to prevent significant exposure to toxic gases from combustion, burning, or decomposition. In an enclosed or poorly ventilated area, wear SCHA during cleanup immediately after a fire as well as during the attack phase of firefighting operations.

Unusual Fire and Explosion Hazards
- Irritating or toxic substances will be emitted upon combustion, burning, or decomposition. Smoke form burning compound will be extremely irritating.

- Thermoplastic polyurethane can burn. Protect product from flames of any kind and maintain proper clearance when using heat devices, etc. Store flammable liquids away from this product.

SECTION V – REACTIVITY DATA

Stability	Hazardous Polymerization	Incompatibility
Stable	Will not occur	Conditions to avoid: Overheating Materials to avoid: None known

Hazardous Decomposition Products (e.g., combustion, overheating, etc.)
Potential decomposition gases have not been fully determined. Thermal decomposition, pyrolysis or combustion may generate CO, CO_2, and small amount of hydrogen cyanide, oxides of nitrogen, hydrocarbons, diisocyanate, water vapor and smoke. Substances listed under Thermal Processing Emissions also may be present.

Decomposition Product	ACGIH TLV-TWA/C/STEL	OSHA PEL/C/STEL
-Carbon monoxide	TWA 25 ppm	Pel 35 ppm C 200 ppm
-Hydrogen cyanide (HCN)	C 10 ppm skin	STEL 4.7 ppm skin
-Diphenylmethane dilsocyanate (MDI)	TWA 0.005 ppm	C 0.02 ppm

Notes: - TLV-TWA: Threshold Limit Value – Time Weighted Average for amount of chemical substance in the ambient workplace air for a normal 8-hour workday, 40-hour workweek, to which nearly all workers may be repeatedly exposed without adverse effect. American Conference of Governmental Industrial Hygienists, 1992/1993 Edition.
- OSHA PEL: OSHA Permissible Exposure Limit, 8-hour TWA, 29EFR1910.1000.
- "C" Means "Ceiling limit."
- STEL: ACGIH and OSHA Short Term Exposure Limit, 15-minute TWA.

** "Skin" calls attention to the skin as an additional significant route of absorption of the listed chemical.

Thermal Processing Emissions
Well-ventilated conditions are necessary to control hazards from melt processing. The major off-gases from normal melt processing* are expected to be water vapor and carbon dioxide. Also present**, depending on co