SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name: Polyshield Hi-E™ Elastomeric Polyurea
Component: "A"

Company: **Specialty Products, Inc. (SPI)**
2410 – 104th St Ct S, Ste D
Lakewood, WA 98499
Phone: 253.588.7101
Toll Free: 800.627.0773
Fax: 253.588.7196

EMERGENCY CONTACT: For Spills, Leaks, Fire or Exposure call **CHEMTREC**
Toll Free: 800.424.9300
International Calls: 703.527.3887
Fax: 913.321.1490

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Name	CAS#	% W
Modified Diphenylmethane Isocyanate	Not Listed	60 – 100
Diphenylmethane Isocyanate	26447-40	10-30
Reaction product of polyol with 4,4' Diphenylmethane Isocyanate	101-68-8	.005 ppm

SECTION 3: HAZARDS IDENTIFICATION

OSHA/HCS Status: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Emergency Overview:

Danger!
IRRITANT TO EYE AND SKIN.
INGESTION MAY CAUSE IRRITATION.
CAUSES RESPIRATORY TRACT IRRITATION.

Toxic if swallowed. Corrosive to eyes and skin. Causes burns. Irritating to respiratory system. Do not breathe vapor or mist. Do not ingest. Do not get in eyes or on skin or clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Section 3 Notes: **Read the entire MSDS for a more thorough evaluation of the hazards.**

SECTION 4: FIRST AID MEASURES

Eye Contact:	The aerosol, vapor or liquid will irritate human eyes following contact. Immediately flush eyes with running water for a minimum of 15 minutes. Hold eyelids open during flushing. If irritation persists, repeat flushing. Obtain medical attention immediately.
Skin Contact:	Moderate irritant. Repeated and/or prolonged contact may cause skin sensitization. There is limited evidence from animal studies that skin contact may play a role in respiratory sensitization. These results emphasize the need for protective clothing including gloves to be worn at all times when handling these chemicals or in maintenance work. Remove contaminated clothing. Wash affected areas thoroughly with soap and water. If irritation, redness or a burning sensation develops and persists, obtain medical attention. Contaminated clothing should be thoroughly cleaned before reuse.
Ingestion:	Ingestion may cause irritation of the gastrointestinal tract. Based on the acute oral LD50, this product is considered practically non-toxic by ingestion. DO NOT induce vomiting. Provided the patient it conscious, wash out mouth with water; then give 1 or 2 glasses of water to drink. Refer person to medical personnel for immediate attention.
Inhalation:	This product is a respiratory and potential respiratory sensitizer. Inhalation of vapor or aerosol at levels above the occupational exposure limit could cause respiratory sensitization and lung injury. Symptoms may include irritation to the eyes, nose, throat and lungs possible combined with dryness of the throat, tightness of chest and difficulty in breathing and/or flu like symptoms. The onset of the respiratory symptoms may be delayed for several hours after exposure. A hyper-reactive response to even minimal concentrations of MDI may develop in sensitized persons. In a single evaluation of 5 men occupationally exposed to MDI and hydrocarbon solvents vapors under conditions where adequate ventilation or other safety precautions were not used, neuropsychological findings were attributed to MDI. Move patient from are of exposure; keep warm and at rest. Obtain medical attention. Treatment is symptomatic for primary irritation or difficulty breating. If breathing is labored, oxygen should be administered by qualified personnel. Apply artificial respiration if breating has ceased or signs of failing.
Notes to Physician:	Symptomatic treatment and supportive therapy as needed. Following severe exposure medical follow up should be monitored for at least 48 hours.

SECTION 5: FIRE-FIGHTING MEASURES

Flash Point:	Closed cup: >230°F (110°C).
Extinguishing Media:	
Suitable:	Carbon dioxide, dry chemical, or appropriate foam. If water is used, very large quantities are required. Reaction between water and isocyanate may be vigorous. Contain run off water with temporary barriers.
Not Suitable:	None known.
Special Exposure Hazards:	Containers may burst under intense heat. Due to reaction with water, a hazardous build-up of pressure could result if contaminated containers are resealed.
Special Protective Equipment for Firefighters:	Use self-contained breathing apparatus and full protective clothing (Bunker Gear).

SECTION 6: ACCIDENTAL RELEASE MEASURES

Accidental Release Measures:	For major spills call **CHEMTREC** Toll Free 1.800.434.9300 or for International call

1.703.527.3887.

Personal Precautions:	Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment.
Environmental Precautions:	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Contain runoff water with temporary barriers.
Methods for Cleaning Up:	Clean up should only be performed by trained personnel. People dealing with major spillages should wear full protective clothing including full air supplied respirator. Evacuate the area. Prevent further leakage, spillage or entry into drains. Contain and absorb large spillages onto an inert, non-flammable absorbent carrier (such as earth or sand). Shovel into open-top drums or plastic bags for further decontamination, if necessary. Wash the spillage area clean with liquid decontaminant. Remove and dispose of residues. Notify applicable government authorities if release is reportable.
Preparation of Decontamination Solution	Prepare a decontamination solution of 0.2 – 0.5% liquid detergent and 3 – 8% concentrated ammonium hydroxide in water (5 – 10% sodium carbonate may be substituted for the ammonium hydroxide.
Use of Decontamination Solution	• Allow deactivated material to stand for at least 30 minutes before choveling into drums. • Do not tighten the bungs. • Mixing with wet earth is also effective, but slower.

SECTION 7: HANDLING AND STORAGE

Handling:	Avoid personal contact with the product or reaction mixture. Use only with adequate ventilation to ensure that the occupational exposure limit is not exceeded. The efficiency of the ventilation system must be monitored regularly because the possibility of blockage. Avoid breathing aerosols, mists and vapors. When the product is sprayed or heated, approved MSHA/NIOSH positive-pressure, supplied air-respirator may be required.
Storage	Keep containers properly sealed and when stored indoors, in a well-ventilated area. Keep contents away from moisture. Due to reaction with water producing CO2 gas, a hazardous build-up of pressure could result if contaminated containers are sealed. Do not reseal contaminated containers. Uncontaminated containers, free of moisture, may be resealed only after placing under a nitrogen blanket. Do not store in containers made of copper, copper alloys or galvanized surfaces. IDEAL STORAGE TEMPERATURE IS 60°F – 100°F (16°C - 38°C)

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Consult local authorities for acceptable exposure limits.

Preventive Measures:	Conditions of use, adequacy of engineering or other control measures, and actual exposures will dictate the need for specific protective devices at your workplace.
Engineering Controls:	Use local exhaust ventilation to maintain airborne concentrations below the TLV. Suitable

respiratory equipment should be used in cases of insufficient ventilation or where operational procedures demand it. For guidance on engineering control measures refer to the ACGIH publication 'Industrial Ventilation'.

Personal Protection Eye Protection:	Chemical safety goggles. If there is a potential for splashing, use a full-face shield.
Skin Protection:	The following protective materials are recommended: GLOVES – neoprene, nitrile rubber, butyl rubber. Thin latex disposable gloves should be avoided for repeated or long-term use. PROTECTIVE CLOTHIGN should be selected and used in accordance with 'Guidelines for the Selection of Chemical Protective Clothing', published by ACGIH.
Respiratory Protection:	When the product is sprayed or heated without adequate ventilation, an approved MSHA/NIOSH prositive pressure supplied air respirator may be required. Air purifying respirators equipped with organic vapor cartridges and a HEPA (P100) particulate filter may be used under certain conditions when a cartridge change out schedule has been developed in accordance with the OSHA respiratory protection standard (29 CFR 1919.134).
Work Hygienic Practices:	Follow the usual precautionary measures for handling chemicals. Keep away from food and beverages. Immediately remove all soiled and contaminated clothing. Avoid contact with eyes, skin and clothing. Wash hands after use. Wash all contaminated clothing and shoes before reuse.
Other Protection:	Consult your supervisor or S.O.P. for special handling instructions.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

General Appearance Information	
Physical State:	Pale yellow liquid
Odor:	Slight odor
Important Health, Safety and Environmental Information	
Boiling Point:	Not applicable
Melting Point:	Not available
Flash Point:	>230°F (110°C)
Flammable Limits/% Volume in Air:	Not Available
Solubility: (water):	Reacts with water
Solubility: (other):	Soluble in most organic solvents
Vapor Pressure:	Approx. 4×10^{-6}
Vapor Density (Air=1):	Approx. 8.5
Other Information:	
Volatile Organic Compounds (VOC):	0 grams/liter

SECTION 10: STABILITY AND REACTIVITY

Stability and Reactivity:	Stable at room temperature.
Incompatibility *(Materials to Avoid):*	This product will react with any material containing active hydrogen's such as water, alcohol, amines, bases and acids. The reaction with water is very slow under 122°F (50°C) but is accelerated at higher temperatures.
Hazardous Polymerization:	Polymerization may occur at elevated temperatures in the presence of alkalies, tertiary amines and metal compounds.

Hazardous Decomposition Products	Highly unlikely under normal industrial use.
Conditions to Avoid	Avoid high temperatures. Avoid freezing.

SECTION 11: TOXICOLOGICAL INFORMATION

Toxicity Data

	Test	Result	Route	Species
Polymeric MDI	LD50	5000 mg/kg	Dermal	Rabbit
	LD50	490 mg/kg	Respirable	Rat

Potential Acute Health Effects

Ingestion:	May cause irritation.
Inhalation:	Irritating to respiratory system. Risk of serious damage to respiratory system.
Eyes:	Irritating to eyes.
Skin:	Irritating to skin.

Potential Chronic Health Effects

Target Organs:	None known.
Carcinogenicity:	No known significant effects or critical hazards.
Mutagenicity:	No known significant effects or critical hazards.
Teratogenicity:	No known significant effects or critical hazards.
Developmental Effects:	No known significant effects or critical hazards
Fertility Effects:	No known significant effects or critical hazards.

SECTION 12: ECOLOGICAL INFORMATION

NO DATA AVAILABLE

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Method:

- Disposal should be in accordance with local, state, provincial or national regulations. This material is not a hazardous waste under RCRA 40 CFR 261
- Small quantities should be treated with a decontamination solution. The treated waste is not a hazardous material under RCRA 50 CFR 261.
- Chemical waste, even small quantities should never be poured down drains, sewers, or waterways.
- Empty containers should be decontaminated and either passed to an approved drum recycler or destroyed.

SECTION 14: TRANSPORTATION INFORMATION

EMERGENCY CONTACT: For Spills, Leaks, Fire or Exposure call **CHEMTREC**
Toll Free: 800.424.9300
International Calls: 703.527.3887
DOT Classification: Not Regulated

SECTION 15: REGULATORY INFORMATION

OSHA Classification: This product is classified as hazardous material under the criteria outlined in the OSHA Hazard Communication Standard (HCS) (29 CFR 1919.1200).

TSCA REgulation: All ingredients are on the TSCA Chemical Substance Inventory

CERCLA:

- 4,4' – Methylene Diphenyl Diixocynate (CAS 101-68-8) has a 5,000 lb. RQ.
- Any spill or release above the RQ must be reported to the National Response Center (800-424-8802)

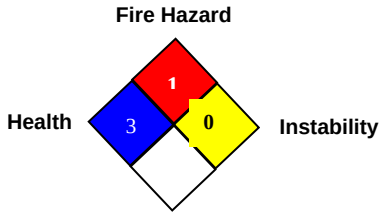
This product has been classified according to the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

SECTION 16: OTHER INFORMATION

Causes damage to the following organs: Lungs, Respiratory Tract, Skin, and Eyes. May be harmful if inhaled, may cause respiratory tract, eye and skin irritation, may cause allergic respiratory and skin reaction.

HAZARDOUS MATERIAL INFORMATION SYSTEM (U.S.A.) **NATIONAL FIRE PROTECTION ASSOCIATION (U.S.A.)**

Health	**3**
Fire Hazard	**1**
Reactivity	**0**



For Your Protection:

The information and recommendations in this publication is to the best of our knowledge, reliable. The toxicity and risk characteristics of products made by SPI will necessarily differ from the toxicity and risk characteristics that occur when such products are used with other materials during a manufacturing process. The resulting risk characteristics should be determined and made known to ultimate end-users and processors. The user is responsible to comply with all applicable federal, provincial or municipal laws and regulations. SPI MAKES NO WARRANTIES OF ANY KIND, EXPRESSED OR IMPLIED, INCLUDING THOSE OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Preparation Information:

This MSDS supersedes ALL previous MSDS versions.