SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name: Polyprime-SC™

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
Isocyanates, reaction product of polyol with methylenediphenyl diisocyanate	53862-89-8	30 – 60
4, 4'-Diphenylmethane-Diisocyanate	101-68-8	7 – 13
Diphenylmethanediisocyanate, isomers and homologues	9016-87-9	7 – 13

SECTION 3: HAZARDS IDENTIFICATION

Physical State: Liquid.

Odor: Slightly musty

OSHA/HCS status: Not Regulated

Emergency Overview: WARNING

Harmful by inhalation. Irritating to eyes and respiratory system. May cause sensitization by inhalation and skin contact. This product is a respiratory irritant and potential respiratory sensitizer: repeated inhalation of vapour or aerosol at levels above the occupational exposure limit could cause respiratory sensitization. A hyper-reactive reponse to even minimal concentrations of diisocyanates may develop in sensitized persons. The onset of the respiratory symptoms may be delayed for several hours after exposure.

Reacts slowly with water to produce carbon dioxide which may rupture closed containers. This reaction accelerates at higher temperatures.

General Information: **Read the entire MSDS for a more thorough evaluation of the hazards.**

SECTION 4: FIRST AID MEASURES

Eye Contact:	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.
Skin Contact:	After contact with skin, wash immediately with plenty of warm soapy water. Get medical attention if irritation develops. Wash clothing before reuse. Clean shoes thoroughly before reuse. A MDI study has demonstrated that a polyglycol-based skin cleanser or corn oil may be more effective than soap and water.
Ingestion:	Wash out mouth with water. Move exposed person to fresh air. Do not induce vomiting unless directed by medical personnel. Get medical attention if symptoms occur. Never give anything by mouth to an unconscious person.
Inhalation:	If inhaled, remove to fresh air. If not breathing, give artificial respiration. Get medical attention immediately. Treatment is symptomatic for primary irritation or bronchospasm. If breathing is labored, oxygen should be administered by qualified personnel.
Notes to Physician:	Symptomatic and supportive therapy as needed. Following severe exposure medical follow-up should be monitored for at least 48 hours.
General	In case of accident or if you feel unwell, seek medical advice IMMEDIATELY (show the MSDS where possible).

SECTION 5: FIRE-FIGHTING MEASURES

Flash Point:	Closed cup: >230°F (110°C) .
Products of Combustion:	Combustion products may include: carbon oxides (CO, CO_2) nitrogen oxides (NO, NO_2 etc.) hydrocarbons and HCN.
Extinguishing Media Suitable:	Use an extinguishing agent suitable for the surrounding fire.
Not Suitable:	None known.
Special Exposure Hazards:	In a fire or if heated, a pressure increase will occur and the container may burst. No specific hazard.
Special Protective Equipment for Fire-fighters:	Fire fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. PVC boots, gloves, safety helmet and protective clothing should be worn.
Unusual Fire and Explosion Hazards:	Due to reaction with water producing CO2-gas, a hazardous build-up of pressure could result if contaminated containers are re-sealed. Containers may burst if overheated.

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. Evacuate the area. Keep upwind to avoid inhalation of vapors. Clean-up should only be performed by trained personnel. People dealing with major spillages should wear full protective clothing including respiratory protection. Use suitable protective equipment (See SECTION 8-Exposure Controls for details).
Environmental Precautions:	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers.
Methods for Cleaning Up:	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. Test atmosphere for MDI. Neutralize small spillages with decontaminant. Remove and properly dispose of residues. Notify applicable government authorities if release is reportable. The CERCLA RQ for MDI is 5,000 lbs (see CERCLA in Section 15).

SECTION 7: HANDLING AND STORAGE

Handling:	Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored, and processed. Workers should wash hands and face before eating, drinking, and smoking. Do not ingest. Avoid contact with eyes, skin, and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
Storage:	Keep container in a cool, well-ventilated area. Keep container tightly closed. Keep away from moisture. Due to reaction with water producing CO2 gas, a hazardous build-up of pressure could result if contaminated containers are resealed. Do not reseal contaminated containers. Uncontaminated containers, free of moisture, may be released only after placing under a nitrogen blanket. Do not store in containers made of copper, copper alloys, or galvanized surfaces.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Product Name & Exposure Limits:	Polypropylene glycol Exposure Limits AIHA WEEL (United States, 1/2007). TWA: 10 mg/m3 8 hour(s). Form:Aerosol Diphenylmethane 4,4' Dissocyanate

Exposure Limits
ACGIH TLV (United Sates, 1/2007)
TWA: 0.005 ppm 8 hour/hours
NIOSH REL (United Sates, 12/2001)
TWA: 0.05 mg/m^3 10 hour/hours
TWA: 0.005 ppm 10 hour/hours
CEIL: 0.2 mg/m^3 10 minute/minutes
CEIL: 0.02 ppm 10 minute/minutes
OSHA PEL (United States, 8/1997)
CEIL: 0.2 mg/m^3 **0 hour/hours**
CEIL: 0.02 ppm 0 hour/hours
OSHA PEL 1989 (United States, 3/1989).
CEIL: 0.02 ppm
CEIL: 0.2mg/m^3

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. Medical supervision of all employees who handle or come in contact with respiratory sensitizers is recommended. Persons with respiratory problems including asthmatic-type conditions, chronic bronchitis, other chronic respiratory diseases or recurrent skin eczema or skin allergies should be evaluated for their suitability of working with this product. Once a person is diagnosed as sensitized, no further exposure to the material that caused the sensitization should be permitted.
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".
Eye Protection:	Chemical safety goggles. If there is a potential for splashing, use a full face-shield.
Hands 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.
Skin Protection:	Protective clothing 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 positive-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 C.F.R.1910-134).
Hands:	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary
Other Protection:	Consult your supervisor or S.O.P. for special handling instructions.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

General Information

Physical State:	Liquid.
Color:	Not available
Odor:	Slightly musty
Odor Threshold:	Not available

Important Health, Safety and Environmental Information

pH:	Not applicable
Boiling Point:	>300°C decomposes
Melting Point:	Not available
Flash Point:	Close Cup: >110°C (>230°F)
Solubility (water):	Reacts with water
Oxidizing properties	Not available
Saturated vapor:	> 32 pg/m^3 @ 20 Deg C
Vapor Pressure:	Not available
Relative Denisty:	Not available
Vapor Density:	8.5
Auto-ignition temperature	>600°C

Other Information

Volatile Organic Compounds(VOC): Not available

SECTION 10: STABILITY AND REACTIVITY

Stability & Reactivity:	Stable at room temperature. Reaction with water (moisture) produces C02-gas. Exothermic reaction with materials containing active hydrogen groups. The reaction becomes progressively more vigorous and can be violent at higher temperatures if the miscibility of the reaction partners is good or is supported by stirring or by the presence of solvents. MDI is insoluble with, and heavier than water and sinks to the bottom but reacts slowly at the interface. A solid water-insoluble layer of polyurea is formed at the interface by liberating carbon dioxide gas.
Incompatibility with Various Substances:	Waters, alcohols, amines, bases and acids.
Hazardous Decomposition or by-Products:	Combustion products may include: carbon oxides (CO, CO_2) nitrogen oxides (NO, NO_2 etc.) hydrocarbons and HCN
Hazardous Polymerization:	Polymerization may occur at elevated temperatures in the presence of alkalies, tertiary amines and metal compounds.
Conditions of Instability:	Avoid high temperatures.

SECTION 11: TOXICOLOGICAL INFORMATION

Toxicity to Animals	Test	Result	Exposure	Species
Diphenylmethane 4,4'- diisocyanate	LC50 Dermal	>5000 mg/kg	-	Rabbit
	LD50 Oral	>5000 mg/kg	-	Rat
	LC50 Inhalation Dusts and mists	0.49 mg/L	4 hours	Rat
Methylenediphenyldiisocyanate, isomers and homologues	LD50 Dermal	>5000 mg/kg	-	Rabbit
	LD50 Oral	>5000 mg/kg	-	Rat
	LC50 Inhalation Dusts and mists	0.49 mg/L	4 hours	Rat

Classification

Product Ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Diphenylmethane 4,4'- diisocyanate	-	3	-	-	-	-
Methylenediphenyldiisocyanate, isomers and homologues	-	3	-	-	-	-

Acute Toxicity

Ingestion: Low oral toxicity. Ingestion may cause irritation of the gastrointestinal tract.
Inhalation: Toxic by inhalation. May cause sensitization by inhalation.
Eyes: Irritating to eyes.
Skin: Irritating to skin. May cause sesitization by skin contact.

Potential Chronic Health Effects

Target Organs: Contains material which causes damage to the following organs: lungs, upper respiratory tract, skin.

Carcinogenicity: Rats have been exposed for two years to a respirable aerosol of polymeric MDI which resulted in chronic pulmonary irritation at high concentrations. Only at the top level (6 mg/m3), there was a significant incidence of a benign tumour of the lung (adenoma) and one malignant tumour (adenocarcinoma). There were no lung tumours at 1 mg/m3 and no effects at 0.2 mg/m3. Overall, the tumour incidence, both benign and malignant, and the number of animals with the tumors were not different from controls. The increased incidence of lung tumours is associated with prolonged respiratory irritation and the concurrent accumulation of yellow material in the lung, which occurred throughout the study. In the absence of prolonged exposure to high concentrations leading the chronic irritation and lung damage, it is highly unlikely that tumour formation will occur.

Mutagenicity Teratogenicity: There is no substantial evidence of mutagenic potential.
No birth defects were seen in two independent animal (rat) studies. Fetotoxicity was observed at doses that were extremely toxic (incuding lethal) to the mother. Fetotoxicity was not observed at doses that were not maternally toxic. The doses used in these studies were maximal, respirable concentrations, which are well in excel of defined occupational exposure limits.

Fertility Effects: No known significant effects or critical hazards.
Developmental effects: No known significant effects or critical hazards.

SECTION 12: ECOLOGICAL INFORMATION

Aquatic Ecotoxicity

Product/Ingredient name	Test	Results	Species	Exposure
Diphenylmethane 4,4'- diisocyanate	-	Acute EC50 >1000 mg/L	Daphnia	48 hours
		Acute LC50 >1000 mg/L	Fish	96 hours

Mobility: By considering the production and use of the substance, it is unlikely that significant environmental exposure in the air or water will arise. Immiscible with water, but will react with water to produce inert and non-biodegradable solids. Conversion to soluble products, including diamino-diphenylmethane (MDA), is very low under the optimal laboratory conditions of good dispersion and low concentration. In air, the predominant degradation process is predicted to be relatively rapid OH radical attack, by calculation and by analogy with related diisocyanates.

Environmental Effects: By comparison with an analogous product, the following values are anticipated. The measured ecotoxicity is that of the hydrolised product, generally under conditions maximizing production of soluble species. Even so, the observed ecotoxicity is low/very low. A pond study showed gross contamination caused no significant toxic effects on a wide variety of flora in all trophic levels (including fish), no detectable diaminodiphenylmethane (MDA) and no evidence of bioaccumulation of MDI or MDA.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Method: The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recycled products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers.

SECTION 14: TRANSPORTATION INFORMATION

EMERGENCY CONTACT: For Spills, Leaks, Fire or Exposure call **CHEMTREC**

Toll Free: 800.424.9300
International Calls: 703.527.3887

Regulatory Information	UN Number	Proper shipping name	Class	PG*	Label	Additional information
DOT Classification	NA3082	Other Regulated Substances, Liquid, N.O.S. (Methylene Diphenyl Diisocyanate)	9	III		**Reportable quantity 5000 lbs (2270 kg) Single containers less than 5,000 lbs are not regulated**
TDG Classification	Not Regulated					
IMDG Class	Not Regulated					
IATA-DGR Class	Not Regulated					

*PG Packing group

SECTION 15: REGULATORY INFORMATION

United States

This material is classified as hazardous under OSHA Hazard Communication Standard (29 CFR 1910.1200).

HCS Classification	Toxic material Irritant Sensitizer
U.S. Federal Regulations:	United States inventory (TSCA 8b): All components are listed or exempted. TSCA 12(b) one-time export: Chlorobenzene

CERCLA: Hazardous Substance

Components	Concentration	Section 304 CERCLA Hazardous Substance	CERCLA Reportable Quantity	Product Reportable Quantity
Diphenylmethane 4,4' – diisocynate	10.3	Listed	5000	48544

Release of more than any reportable quantity to the environment in a 24 hour period requires notification to the National Response Center (800-424-8802 or 202-426-2675).
This product does not contain nor is it manufactured with ozone depleting substances.

SARA 313

	Product name	CAS number	Concentration
Form R – Reporting requirements	Diisocyanate compound (category code N120)	101-68-8	11%

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

California Prop 65	No ingredients listed.
Canada	
WHMIS (Canada)	WHMIS Class D-1A: Material causing immediate and serious toxic effects (Very toxic). WHMIS Class D-2A: Material causing other toxic effects (Very toxic). WHMIS Class D-2B: Material causing other toxic effects (Toxic).
CEPA (DSL)	All components are listed or exempted.

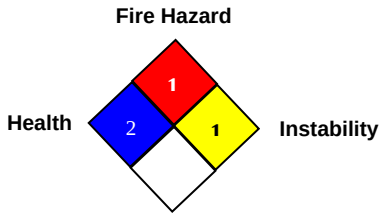
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

SECTION 16: OTHER INFORMATION

Label requirements:	Harmful by inhalation. Irritating to eyes and respiratory system. May cause sensitization by inhalation and skin contact. This product is a respiratory irritant and potential respiratory sensitizer. Repeated inhalation of vapor or aerosol at levels above the occupational exposure limit could cause respiratory sensitization. A hyper-reactive response to even minimal concentrations of diisocyanates may develop in sensitized persons. The onset of the respiratory symptoms may be delayed for several hours after exposure. Reacts slowly with water to produce carbon dioxide which may rupture closed containers. This reaction accelerates at higher temperatures.

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

Health	**2**
Fire Hazard	**1**
Reactivity	**1**



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.