Material Safety Data Sheet

Section 1 – Chemical Product and Company Identification

Product Name: GSP 6040 Part B
Product Use: Component of polyurethane.
Effective Date: 1/10/06

Manufactured by:
G.S. Polymers, Inc.
195 Arovista Ave.
Brea, CA 92821
(714) 672-0567 Fax: (714) 672-0987

In an emergency call CHEMTREC @ 800-424-9300

Section 2 – Composition/Information on Ingredients

Hazardous Ingredients(s)	%(by wt.)	OSHA TLV(ACGIH)	CAS NO.
Polyester Polyol Blend	99-100%	Not Established	Mixture
Organic Mercury Compound	<1%	(0.1mg/m3 TWA)	94070-93-6

Section 3 – Hazards Identification

Inhalation: Short-term harmful health effects are not expected from vapor generated at ambient temperature.

Eye Contact: May cause irritation or corneal injury. Molten material causes thermal burns.

Skin Contact: Prolonged contact may cause slight irritation. Molten material causes thermal burns.

Ingestion: Single dose oral toxicity is low. Small amounts swallowed incidental to normal handling operations are not likely to cause injury. Ingestion in large amounts may cause injury.

Chronic Effects: Overexposure to mercury compunds has been associated with central nervous system effects, fatigue, difficulty breathing, chest and abdominal pain, digestive sytem effects, vomiting, and kidney damage. Other mercury compounds have been associated with reproductive effects.

Section 4 – First Aid Measures

Eye Contact: Flush thorougly with water for 15 minutes. Consult a physician.

Skin Contact: Wash with soap and water. Remove contaminated clothing. (Wash before reuse.)

Inhalation: Remove victim to fresh air. Seek medical advice if symptoms persist.

Ingestion: If swallowed, seek medical attention. Do not induce vomitting unless directed to do so by medical personnel

Note to Physicians: Treatment based on judgement of the physician in response to reactions of the patient.

Section 5 – Fire Fighting Measures

Flash Point: 380^{o} F Closed Cup

Extinguishing Media: Apply alcohol-type or all-purpose-type foams by manufacturer's recommended techniques for large fires. Use CO2 or dry chemical media for small fire.

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide. May liberate mercury compounds under fire conditions.

Section 6 – Accidental Release Measures

For major spills call Chemtrec (800) 424-9300.

Spills, Leaks, or Releases: Prevent material from contaminating soild or entering sewage and drainage systems and bodies of water. Soak up small spills with absorbant material. Larger spills should be collected for disposal.

Section 7 – Handling and Storage

Storage Precautions: Keep container closed when not in use to protect from atmospheric moisture.

Handling Precautions: For industrial use only. Genral room ventilation is expected to be satisfactory. After handling, wash hands before eating or smoking.

Section 8 – Exposure Controls/Personal Protection

Eye Protection: Use chemical goggles.

Skin Protection: Use gloves impervious to this material when prolonged or frequently repeated contact could occur.

Respiratory Protection: Use an approved air-purifying respirator.

Ventilation: Good general ventilation should be sufficient for most conditions. Local exhause ventilation may be necessary for some operations.

Section 9 – Chemical and Physical Properties

Molecular Formula: ..... Not applicable (mixture)
Physical Form: ..... Translucent Liquid
Color: ..... Clear-Yellow
Odor: ..... Odorless
Specific Gravity: 1.1
Viscosity: ..... Not Established

Section 10 – Stability and Reactivity

Stability: This is stable material.

Hazardous Polymerization: Will not occur.

Incompatibilities: Avoid contact with oxidizing materials. Avoid contact with acids and isocyanates. The reactions of polyols and isocyanates generates heat. Avoid contact with stong acid.

Decomposition Products: Oxides of Carbon, Mercury Compounds

Section 11 – Toxicology Information

Toxicity has not been established for the product as a whole. However, no component of this product is listed as toxic. The LD50 for all components is greater than 5000mg/kg.

Section 12 – Ecological Information

Not Established.

Section 13 – Disposal Considerations

Waste Disposal Method: Waste must be diposed of in accordance with federal, state, and local environmental control regulations. Incineration is the preferred method.

Empty Container Precautions: Empty containers must be handled with care due to product residue. Do not heat or cut empty container with electric or gas torch.

Section 14 – Transportation Information

D.O.T.: Not Regulated

Section 15 – Regulatory Information

California Propostion 65:

Ingredient	CAS#	%Wt.
Organic Mercury Compound	94070-93-6	<1%

Section 16 – Other Information

HMIS Rating: Health: 2 Flammability: 1 Reactivity: 1

The information contained herein is believed to be accurate. It is provided independently of any sale of the product for purpose of hazard communication as part of G.S. Polymers' product safety program. It is not intended to constitute performance information concerning the product. No Express warranty, or implied warranty of merchantability or fitness for a particular purpose is made with respect to the product or the information contained herein.

To determine applicability or effects of any law or regulation with respect to the product, user should consult his legal advisor or the appropriate government agency. G.S. Polymers does not undertake to furnish advice on such matters.

Prepared by Gerald Salladin_____Date_____
Title: Owner
Company: G.S. Polymers, Inc. Rev Date: 1/10/06

Material Safety Data Sheet

Section 1 – Product Name and Manufacturer

Product Name: GSP 6040 Part A
Product Use: Component of a polyurethane
Effective Date: 1/10/06

Manufactured by:
G.S. Polymers, Inc.
195 Arovista Ave.
Brea, CA 92821
(714) 672-0567 Fax: (714) 672-0987

In an emergency, call CHEMTREC @ 800-424-9300

Section 2 – Hazardous Ingredients

CAS NO.	Hazardous Ingredients(s)	%(by wt.)	ACGIH TLV
101-68-8	4,4--Dipheny1methane Diisocyanate (MDI)	less than 99%	0.005 PPM TWA
26447-40-5	Diphenylmethane Diisocyanate (2,2,2,4)	less than 10%	not established

Section 3 – Hazards Identification

EMERGENCY OVERVIEW

Health Hazards Irritating to eyes, respiratory system and skin. Risk of serious damage to respiratory system. May cause sensitization by inhalation and skin contact. Repeated inhalation of aerosol at levels above the occupational exposure limit could cause respiratory sensitization. The onset of the respiratory symptoms may be delayed for several hours after exposure. A hyper-reactive response to even minimal concentrations of MDl may develop in sensitized persons.

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

Appearance Black

Odor Slightly musty

Read the entire MSDS for a more thorough evaluation of the hazards.

Section 4 – First Aid Measures

General In case accident or if you feel unwell. Seek medical advice immediately(Show the label where possible).

Inhalation Remove patient from exposure, keep warm and at rest. Obtain medical attention. Treatment is Symptomatic for primary irritation or bronchospasm. If breathing is labored, qualified personnel should administer oxygen. Apply artificial respiration if breathing has ceased or shows signs of failing.

Skin Contact	Remove contaminated clothing. Wash affected areas thoroughly with soap and water. If irritation, redness, or a burning sensation develops and persists, obtain medical advice. Contaminated clothing should be thoroughly cleaned before reuse.
Eye Contact	Immediately flush eyes with running water for a minimum of 15 minutes. Hold eyelids open during flushing. If irritation persists repeat flushing and obtain medical attention IMMEDIATELY.
Ingestion	Do NOT induce vomiting. Provided the patient is conscious, wash out their mouth with water then give 1 or 2 glasses of water to drink. Refer person to medical personnel for immediate attention.
Note to Physicians	Symptomatic and supportive therapy may be needed following severe exposure. In such cases, medical follow-up should be maintained for at least 48 hours.

Section 5 – Fire Fighting Measures

Fire and Explosion Hazards:	Containers may burst under intense heat Due to reaction with water, a hazardous build-up of pressure could result if contaminated containers are re-sealed.
Extinguishing Media:	Carbon dioxide, dry chemical, or appropriate foam. If water is used, very large quantities are required. Reaction between water and hot isocyanate may be vigorous. Contain runoff water with temporary barriers.
Fire Fighting Protective Equipment:	Use self-contained breathing apparatus and full protective clothing (Bunker gear).
Flash Point:	400^{o}F (204^{o}C) (COC)
Flammable Limits (Lower):	Not available.
Flammable Limits (Upper):	Not available.
Auto Ignition Temperature:	240^{o}C (464^{o}F) (4,4'- Diphenylmethane Diisocyanate)
Decomposition Temperature:	646^{o}F (341.1^{o}C)
Rate of Burning:	Not available.
Explosive Power:	None.
Sensitivity to Mechanical Impact:	None.
Sensitivity to Static Discharge:	None.
Combustion Products:	CO, CO_2, NO_x and some HCN.

Section 6 – Accidental Release Measures

For major spills call Chemtrec (800-424-9300)

Spills, Leaks, or Releases: Clean up should only be performed by trained personnel. People dealing with major spillages should wear full protective clothing including respiratory protection. Evacuate the area.

Prevent further leakage, spillage or entry into drains. Contain and absorb large spillages onto an inert, non-flammable adsorbent 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 vapor. Neutralize small spillages with 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). Follow the precautions on the supplier's material safety data sheets when preparing and using solution.

Use of Decontamination Solution: Allow deactivated material to stand for at least 30 minutes before shoveling 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 defined occupational exposure limit is not exceeded. The efficiency of the ventilation must be monitored regularly because of the possibility of blockage. Avoid breathing aerosols, mists and vapors. When the product is sprayed or heated, an approved MSHA/NIOSH positive-pressure, supplied-air respirator may be required.

Storage Requirements: Keep containers properly sealed and when stored indoors, in a well ventilated area. Keep contents away from moisture. Due to reaction with water, producing CO_2 gas, a hazardous build-up of pressure could result if contaminated containers are re-sealed. Do not store in containers made of copper, copper alloys or galvanized surfaces. If a container is contaminated, do not reseal it. Reseal containers only after placing under a nitrogen blanket.

Storage Temperature: Ideal storage temperature is 16-38^{o}C (60-100^{o}F).

Keep stocks of decontaminant (See Section 6) readily available.

Section 8 – Exposure Control and Personal Protection

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. Follow guidelines in the ACGIH publication "Industrial Ventilation".

PERSONAL PROTECTIVE EQUIPMENT:

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-butadiene rubber, butyl rubber. Thin disposable gloves should be avoided for repeated or long term use. Protective clothing should be selected and used in accordance with "Guidelines for the Selection of Chemical Protective Clothing" published by ACGIH.

Respiratory Protection: Use a NIOSH/MSHA-approved positive pressure air-supplied respirator equipped with a full facepiece, or an air-supplied hood, if airborne concentrations exceed or are expected to exceed the TLV. Air purifying (cartridge type) respirator are not approved for protection against Diisocyanate.

EXPOSURE GUIDELINES:
Medical supervision of all employees who handle or come in contact with respiratory sensitizers is recommended. Persons with asthmatic-type conditions, chronic bronchitis, other chronic respiratory diseases or recurrent skin eczema or sensitization should be excluded from working with this product. Once a person is diagnosed as sensitized, no further exposure to any sensitizer should be permitted.

HAZARDOUS INGREDIENT(S):

4,4'-Diphenylmethane Diisocyanate:

ACGIH TLV	0.005 ppm (8-hour, 40 hours/week)
OSHA PEL CEILING	0.02 ppm
NIOSH TLV	0.005 ppm (10-hour, 40 hours/week)
NIOSH STEL	0.02 ppm (15-minute)

NOTE: The Occupational Exposure Limits listed for isocyanates do not apply to previously sensitized individuals.

Section 9 – Chemical and Physical Properties

Appearance/Color: ..... Clear – Light Yellow Liquid
Odor: ..... Weakly Aromatic
Molecular Weight: 300-350
pH: ..... Not Established
Boiling Point: ..... 302 F (150C) at 5 mmHg
Melthing/Freezing Point: ..... Range 59 F (15 C) to 68 F (20 C)
Solubility in Water: .....Reacts slowly with water to liberate CO2 gas
Specific Gravity: ..... 1.22 @77 F (25 C)
Bulk Density:..... 10.2 lbs/gal
% Volatile by Volume: .....Neglible
Vapor Pressure: .....Less than 10-5 mmHg at 77 F (25 C)
Vapor Density:..... 8.5 (MDI

Section 10 – Stability and Reactivity

Hazardous Decomposition Products: Highly unlikely under normal industrial use. See Section 5.

Chemical Stability: Stable at room temperature.

Conditions to Avoid: Avoid high temperatures. Avoid freezing.

Incompatibility with other Substances: This product will react with any materials containing active hydrogens such as water, alcohol, amines, bases and acids. The reaction with water is very slow under 50^{o}C (122^{o}F)but is accelerated at higher temperatures.

Hazardous Polymerization: Polymerization may occur at elevated temperatures in the presence of alkalis, tertiary amines and metal compounds.

Section 11 – Toxicological Information

TOXICOLOGICAL DATA:

Polymeric MDI:
Oral LD50 (rat) > 5,000 mg/kg
Dermal LD50 (rabbit) > 5,000 mg/kg
Inhalation LC50 (rat) = 490 mg/m3/4H (respirable aerosol)

POTENTIAL HEALTH EFFECTS:

Inhalation: 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. Symptoms may include irritation to the eyes, nose, throat and lungs, possibly combined with dryness of the throat, tightness of chest and difficulty in breathing. 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.

Skin Contact: Moderate irritant. Repeated and/or prolonged contact may cause skin sensitization. Animal studies have shown that respiratory sensitization can be induced by skin contact with known respiratory sensitizers including Diisocyanate. These results emphasize the need for protective clothing including gloves to be worn at all times when handling these chemicals or maintenance work,

Eye Contact: The aerosol, vapor or liquid will irritate human eyes following contact.

Ingestion: Ingestion may cause irritation of the gastrointestinal tract. Based on the oral LD50, this product is considered practically non-toxic by ingestion.

Chronic Effects: A study where groups of rats were exposed for 6 hours/day, 5 days/week for a lifetime to atmospheres of respirable polymeric MDI aerosol. Overall, the tumor incidence, both benign and malignant, and the number of animals with tumors were not different from controls. Only at the top level (6 rng/m^3), there was a significant incidence of a benign tumor of the lung (adenoma) and one malignant tumor (adenocarcinoma). There were no lung tumors at 1 mg/m^3 and no effects at 0.2 mg/m3. The increased incidence of lung tumors 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 to chronic irritation and lung damage, it is highly unlikely that tumor formation will occur. There are reports that chronic exposure may result in permanent decrease in lung function.

Carcinogenicity: The ingredients of this product are not classified as carcinogenic by ACGIH or IARC, not regulated as carcinogens by OSHA, and not listed as carcinogens by NTP.

Mutagenicity: There is no substantial evidence of mutagenic potential.

Reproductive Effects: No adverse reproductive effects are anticipated.

Teratogenicity and Fetotoxicity: No information is available and no adverse teratogenic embryotoxic effects are anticipated.

Section 12 – Ecological Information

Environmental Fate and Distribution:
It is unlikely that significant environmental exposure in the air or water will arise, based on consideration of the production and use of the substance.

Persistence and Degradation:
Immiscible with water, but will react with water to produce inert and non-biodegradable solids.

Toxicity: Polymeric MDI
LCO (Zebra Fish) > 1000 mg/l
LC60 (Daphnia magna) (24 hour) > 1000 mg/l
EC50 (E. Coli) > 100 mg/1

Section 13 – Disposal Considerations

The generation of waste should be avoided or minimized wherever possible.

Disposal should be in accordance with local, state, provincial or national regulations. This material is not a hazardous waste under RCRA 40 OPP 261. Small quantities should be treated with a decontaminate solution (See Section 6). The treated waste is not a hazardous material under RCRA 40 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

DOT: Not regulated

Transportation Emergency Telephone Number: 1-800-424-9300 (CHEMTREC)

IMO: Not regulated. lATA/ICA0 Class: Not regulated.

Section 15 – Regulatory Information

USA CLASSIFICATION:

OSHA classification:

- Physical: Not regulated.
- Health: Highly toxic. Respiratory sensitizer. Irritant.
- Target Organ: Respiratory tract. Skin.

TSCA (Toxic Substances Control Act) Regulations: All ingredients are on the TSCA Chemical substance inventory.

EPCRA Section 313 (40 CFR 372): This product contains the following chemical(s) subject to reporting requirements:
- 74% 4,4'-MDI (CAS 101-68-8).

CERCIA (Comprehensive Environmental Response, Compensation and Liability Act): 4,4'-Methylene diphenyl. Diisocyanate (CAS 101-68-8) has a 5,000 lb. RQ (reportable quantity). Any spill or release above the RQ must be reported to the National Response Center (800) 424-8802. The % of 4,4' MDI in this product is listed in Section 2 of this MSDS.

This product does not contain nor is it manufactured with ozone depleting substances.

Massachusetts Right-to-Know, Pennsylvania Right-to-Know, New Jersey Right-to-Know, CERCLA.

Section 16 – Other Information

HMIS RATINGS:	Health	Flammability	Reactivity
	3	1	0

0=Minimal; 1=Slight; 2=Moderate; 3=Serious; 4=Severe

The information contained herein is believed to be accurate. It is provided independently of any sale of the product for purpose of hazard communication as part of G.S. Polymers' product safety program. It is not intended to constitute performance information concerning the product. No Express warranty, or implied warranty of merchantability or fitness for a particular purpose is made with respect to the product or the information contained herein.

To determine applicability or effects of any law or regulation with respect to the product, user should consult his legal advisor or the appropriate government agency. G.S. Polymers does not undertake to furnish advice on such matters.

Glossary:		
	ACGIH-	American Conference of Governmental Industrial Hygienists
	IARC-	International. Agency for Research on Cancer
	NTP-	National Toxicology Program
	OSHA-	Occupational Safety and Health Administration

Prepared by Gerald Salladin_____ Date _____
Title: Owner/President
Company: G.S. Polymers, Inc.
Date Modified: 1/10/06