TUFFLEX POLYMERS

MATERIAL SAFETY DATA SHEET

1. PRODUCTS AND COMPANY IDENTIFICATION

Product Name: MULT-I-GLAZE "MCU"-400-CLEAR

Product Use: Polyurethane Maintenance Coating

Manufacturer/Supplier

TUFFLEX POLYMERS
10880 Poplar Avenue
Fontana, CA 92337
Web Address: www.tufflexpolymers.com
Fax Number: (909) 349-2016

Medical Emergency:

CHEMTREC (USA): (800) 424-9300
CHEMTREC (International): (703) 527-3887
MSDS Assistance: (909) 349-2016
Technical Assistance: (909) 349-2016
Customer Service: (888) TUFFLEX

2. COMPONENT INFORMATION

OCCUPATIONAL EXPOSURE LIMITS

Hazardous Components	CAS No.	OSHA PEL	ACGIH TLV	MFG TLV	Vapor Pressure mm Hg @ TEMP
Xylene	1330-20-7	100 ppm	100 ppm		1.065 kPa @ 77°F
Ethyl Benzene	100-41-4	100 ppm	100 ppm		
1-Methoxy-2-Propyl Acetate	108-65-6	100 ppm	100 ppm		4.8 @ 38°C (100°F)
Aromatic Hydrocarbon Solvent	64742-95-6	100 ppm	100 ppm		4.8 @ 38°C (100°F)
Aliphatic Diisocyanate*	5124-30-1	N/E	.005 ppm TWA		1.5 × 10-5 @ 25°C
Aliphatic Urethane Polymer	Proprietary	N/E	N/E		N/E

*Indicates toxic chemicals subject to the reporting requirements of section 313 of Title III and of 40 CFR 372.
Information concerning non-hazardous ingredients is considered a trade secret.

3. HAZARDS IDENTIFICATION

Emergency and Hazards Overview:

Flammable, viscous, clear liquid with a solvent odor. Vapors are heavier than air and may travel to distant sources of ignition and flash back. Harmful if swallowed or inhaled. Overexposure to vapors may cause dizziness, headache and central nervous depression. The product contains small amounts of aliphatic isocyanate, which can cause allergic reaction and irritation of nose, throat and lungs.

Ratings

Health 2 Flammability 3 Reactivity 1

Primary Route of Exposure: Skin x Inhalation x Eye x Ingestion x

Health Effect Information

Eye Contact: May cause eye irritation if wiped or rubbed into eyes.

Skin Contact: May cause skin irritation if wiped or left on the skin

Inhalation: May cause irritation of respiratory tract which may result in sinusitis, bronchitis, or asthma. Breathing vapors may cause central nervous system depression.

Ingestion: Moderately toxic. Ingestion may cause symptoms similar to those of inhalation.

Medical Conditions Aggravated by Exposure: Prolonged exposure to solvents may aggravate allergic reactions to nose, throat and lungs.

4. FIRST AID INFORMATION

Eye Contact: Immediately flush with copious amounts of lukewarm water for at least 15 minutes. Have eyes examined and treated by medical personnel.

Skin Contact: Dry skin with paper towel or similar. Wash affected skin thoroughly with soap and water. Immediately remove contaminated clothing. Wash contaminated clothing before reuse. Get medical attention if any discomfort continues.

Inhalation: Move the exposed person to fresh air at once. When breathing is difficult, properly trained personnel may assist affected person by administering 100% oxygen. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention.

Ingestion: If swallowed, give 1 to 2 glasses of milk to drink and contact a physician immediately. Do not induce vomiting. Decision to induce vomiting should only be made by a physician. Never give anything by mouth to an unconscious person.

Notes to Physician: This product contains aromatic hydrocarbon solvents and aliphatic diisocyanate.

5. FIRE AND EXPLOSION INFORMATION

Flammable Properties
Flash Point: 82°F Test Method: TCC
Flame extension: NA Test Method: NA
Flammable Limits in Air by Volume
Upper Percent: 13
Lower Percent: 1
Autoignition Temperature: NA Test Method: NA
NEPA Classification: H 2 F 1 R 1
Extinguishing Media: CO_2, foam or dry chemicals.
Fire Fighting Measures
Special Fire Fighting Procedures and Equipment: Use water spray to cool containers. If water is used to fight fire, use very large quantities of cold water. Wear NIOSH/OSHA approved, self-contained breathing apparatus and full protective gear.
Unusual Fire and Explosion Conditions: Vapors may be ignited by flame, heat or sparks. Heat-exposed containers may burst. Material may collect static charges which can cause an incendiary electrical discharge. Empty container contains product residues. Do not pressurize, cut, weld, drill, grind or expose containers to heat flame, sparks, static electricity or other sources of ignition. They may explode and cause injury or death.
Hazardous Combustion By-Products: CO, CO_2, Nox, HCN, unburned hydrocarbons.

6. ACCIDENTAL RELEASE MEASURES

Personnel Safeguards: Immediately evacuate all non-essential personnel to safe places. Emergency responders should wear positive pressure supplied air respirator with full face piece and proper protective gear before entering the affected area.

Regulatory Notifications: Waste of this product is defined as hazardous according to U.S. EPA. Spill reporting requirements and reportable quantities vary by region. Consult all applicable state and local regulations. For Canada, observe all precautions noted above.

Containment and Clean-up: Remove all sources of ignition. Provide ventilation. Respiratory protection is recommended during spill clean-up. Stop leak if possible without risk. Prevent liquids from entering sewers, drains or waterways by diking with sand or earth. Absorb with vermiculite or other absorbent material, then flush area with decontamination solution. Put in open drums. Treat and clean with decontamination solution consisting of water containing 4-8% ammonia and 2% detergent.

7. HANDLING AND STORAGE INFORMATION

Handling: Provide good ventilation. Avoid prolonged contact with the skin. Air circulations and exhaustion of isocyanate or solvent vapors must be maintained until the coatings have fully cured to insure that no potential fire, explosion or health hazard remains. Use solvent resistant gloves. Avoid rubbing eyes while handling. Respiratory caution to be taken if the cured product is ground or sanded as this may generate irritating dusts.

Storage: Store in cool, dry, ventilated space away from direct sunlight. Keep away from heat, sparks, open flames, electrical equipment, welding torches, pilot lights, etc. Store at 10-30° C

Empty Container Warnings

Drums: Do not reuse empty drums or containers. Do not cut, drill, grind or weld on or near the empty drum.

Plastic: Do not reuse empty containers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION INFORMATION

Exposure Limits and Guidelines

Component	CAS No.	Exposure Limit
Xylene	1330-20-7	100 ppm
Ethyl Benzene	100-41-4	100 ppm
1-methoxy-2-propyl acetate	108-65-6	N.E.
Aromatic hydrocarbon solvent	64742-95-6	100ppm ACGIH TWA
Aliphatic Diisocyanate	5124-30-1	0.005ppm ACGIH TWA

Personal Protective Equipment
Eye/Face Protection: Wear safety goggles
Skin Protection: Use solvent resistant gloves and long sleeved clothing.

Respiratory Protection: If airborne concentrations exceed or are expected to exceed the TLV, use MSHA/NIOSH approved positive pressure supplied air respirator with a full-face piece during application. After application use CCR (Chemical Cartridge Respirator).

Personal Hygiene: Avoid rubbing eyes during handling. Wear chemical tight goggles or full face shield. Use good personal hygiene practices to avoid incidental ingestion.

Engineering Controls/Work Practices

Ventilation: Provide local exhaust or area ventilation to maintain concentration of vapors below TLV.

Use explosion proof ventilation equipment. Take care not to draw vapors into non-explosion proof or spark generating equipment or into occupied office areas or enclosed areas with inhabitants.

Other: Source of clean water should be available in the work area for flushing eyes and skin. Wash thoroughly with soap and water after use and before eating, smoking and using toilet.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear viscous liquid	**Vapor Pressure:** 3.7 mm Hg @ 20°C
Odor: Typical solvent odor	
Physical state: Viscous liquid	**Vapor Density (air=1):** > air
PH: Not applicable	**Percent Volatile by Volume:** 40-50
DOT Corrosivity: Not applicable	**Volatile Organic Content:** 400 g/liter
Boiling Point: 284 to 500 F	**Molecular Weight:** NA
Melting Point: NA	**Average Carbon Number:** NA
Specific Gravity: 1.05	**Viscosity @ 100F:** NA
Pour Point: NA	**Viscosity@ 40C:** NA
Solubility in Water: Negligible	
Octanol/Water Coefficient: Log K = NA	

10. STABILITY AND REACTIVITY INFORMATION

Chemical Stability: Stable under normal conditions. Avoid heat, sparks, flames

Conditions to Avoid: Avoid contact with strong oxidizing materials and bases. Avoid contact with water.

Incompatible Materials to Avoid: Strong oxidizers. Alkali metals.

11. TOXICOLOGICAL INFORMATION (will only print available data)

Primary Eye Irritation: Irritating

Primary Skin Irritation: Irritating

Acute Dermal Toxicity: NA

Subacute Dermal Toxicity:NA

Dermal Sensitization: NA

Inhalation Toxicity: NA

Inhalation Sensitization: NA

Oral Toxicity: Mutagenicity: NA

Carcinogenicity: Diisocyanates are suspect carcinogens. When ingested, Diisocyanate has caused cancer in certain animals.

Reproductive Toxicity: NA

Teratogenicity: NA

Immunotoxicity: NA

Neurotoxicity: NA

Other: NA

No other toxicological information available

12. ECOLOGICAL INFORMATION

Aquatic Toxicity: Not known.

Terrestrial Toxicity: Not known

Chemical Fate and Transport: Not known.

No other ecological information available

13. DISPOSAL INFORMATION

Regulatory Information: Consult all regulations (federal, state, provincial, local etc.) or a qualified waste disposal firm when characterizing waste for disposal.

Waste Disposal Methods: Mix the chemical with an inert material such as sand, vermiculite, etc. and place in a suitable container. Dispose of in accordance with Local Authority requirements.

14. TRANSPORTATION INFORMATION

U.S. Department of Transportation (DOT)

Highway/Rail (Bulk): UN 1263, Paint,3,PGII

Highway/Rail (Non-Bulk): PGII (contains aromatic and aliphatic hydrocarbon solvents), UN1263

The DOT description is provided to assist in the proper shipping classification of this product and may not be suitable for all shipping descriptions.

International Information

Vessel:	**IMDG Regulated:**	Class 3	IMDG Not Regulated
Air:	**ICAO Regulated:**	Class 3	ICAO Not Regulated

Other: No other information available

15. REGULATORY INFORMATION

Regulatory Lists

U.S. TSCA Inventory: All components of this material are on the US TSCA Inventory or exempt from listing on the TSCA Inventory.

SARA 311/312 Categories

Acute: Yes **Chronic:** Yes **Fire:** Yes **Pressure:** Yes **Reactive:** Yes

Sara Section 313: This product contains the following Sara, Title III, Section 313 Chemicals:

Chemical Name	CAS Number
Aliphatic Diisocyanate	5124-30-1
Xylene	1330-20-7
Ethyl Benzene	100-41-4

Regulatory Lists Searched

Health & Safety:
Environmental: NA
International: NA
State: Fl, MA, MN, PA, RI
National Inventories: NA

California Proposition 65 Information: Warning!

The following detectable components of this product are substances or belong to classes of substances, known to the State of California to cause cancer, birth defects or other reproductive toxicity.

Chemical Name	CAS Number
Diisocyanate	5124-30-1
Xylene	1330-20-7
Ethyl Benzene	100-41-4

Canadian WHMIS Classification

Class: B
Division: 3

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

Other Regulations: No other information available

16. OTHER INFORMATION

HMIS ratings – Health: 2 Flammability: 3 Reactivity: 1 Personal Protection: G

DISCLAIMER: The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. No representations or warranties, either expressed or implied, of merchantability, fitness for a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. This data and information is furnished upon the condition that the person receiving it shall make his own determination of the conditions for safe use of this product.

Legend: N.A. – Not Applicable, N.E. – Not Established, N.D. – Not Determined

MSDS Revisions

Previous Version Date: 6/30/06
Revision Date: 1/03/11