

TUFFLEX POLYMERS, LLC

MATERIAL SAFETY DATA SHEET

1. PRODUCTS AND COMPANY IDENTIFICATION

Product Name: TUFF-POXY PRIMER #2, PART A

Product Use: Epoxy Resin Primer

Manufacturer/Supplier

TUFFLEX POLYMERS, LLC

10880 Poplar Avenue

Fontana, CA 92337

Web Address: www.tufflexpolymers.com

Fax Number: (909) 823-6309

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) 883-3539

2. COMPONENT INFORMATION

OCCUPATIONAL EXPOSURE LIMITS

Hazardous Components	CAS No.	OSHA PEL	ACGIH TLV	MFG TLV	Vapor Pressure mm Hg @ Temp
Toluene	108-88-3	200 ppm	50 ppm		22.0 @ 68°F
Bisphenol A-Epichlorohydrin	25085-99-8	N/E	N/E		

Information concerning non-hazardous ingredients is considered a trade secret.

3. HAZARDS IDENTIFICATION

NFPA Classification: H 2 F 3 R 1

Primary Route of Exposure: Skin Inhalation Eye Ingestion

Health Effect Information

Eye Contact: May cause eye irritation if wiped or rubbed into eyes. Can injure eye tissue, which may result in permanent damage.

Skin Contact: May cause mild skin irritation if wiped or left on the skin. Repeated or prolonged contact with skin may cause sensitization.

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.

Chronic Hazards: No known components of this product are listed as known or suspected carcinogens per NIOSH, NTP, IARC, or OSHA. Preexisting respiratory or skin condition(s) may be aggravated by exposure.

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. Wash contaminated clothes before reuse.

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, Do Not induce vomiting. Give victim a glass of water or milk. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person. Should vomiting occur, be sure to keep victim's head below hips to avoid aspiration of vomitus into lungs.

5. FIRE FIGHTING MEASURES

Flash Point: 45°F Lower Explosive Limit: 1.4
(Setaflash Closed Cup) Upper Explosive Limit: 7.4
Autoignition Temperature: N/D
Extinguishing Media: Foam, CO₂, Dry Chemical, Water, Fog

Unusual fire and explosion hazards: Fire produces irritating or poisonous gas. Liquid is combustible when hot. Can form explosive mixtures at temperatures at or above the flashpoint. "Empty" containers retain product residue (liquid an/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, OR OTHER SOURCES OF IGNITION; CONTAINERS MAY EXPLODE AND CAUSE INJURY OR DEATH.

Special Firefighting Procedures: Containers exposed to fire should be kept cool with water spray. As in fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent) and full protective gear. Water runoff can cause environmental damage. Dike and collect water used to fight fire.

6. ACCIDENTAL RELEASE MEASURES

Steps to be taken in case material is released or spilled: Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. Repeat sorbent/sweep cycle until the spill has dried up. Avoid runoff into storm sewers and ditches which lead to waterways.

7. HANDLING AND STORAGE INFORMATION

Handling: Use only in a well ventilated area. Keep put of reach of children.
Storage: Keep away from heat, sparks and flame. Keep container closed when not in use.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION INFORMATION

Engineering Controls: Local exhaust ventilation may be necessary to control any air contaminants to within their TLVs during the use of this product.

Respiratory Protection: Wear NIOSH/MSHA approved respiratory protection when the product is mixed or applied in a poorly ventilated area or if workplace levels of ingredients exceed the TLV. Follow applicable federal, state, and local regulations.

Other Protective Equipment: Where contact is likely, wear chemical resistant gloves, chemical safety goggles with face shield, and clean protective clothing to cover arms and legs to keep exposure to a minimum.

Hygiene Practices: Do not take internally. Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Avoid breathing vapors from heated material. Avoid contact with eyes, skin, and clothing.

EXPOSURE LIMIT						
ITEM	ACGIH		OSHA		COMPANY	
	TLV-TWA	TLV-STEL	PEL-TWA	PEL-CEILING	TLV-TWA	SKIN
Bisphenol a-(epichlorohydrin)	N.E.	N.E.	N.E.	N.E.	N.E.	NO
Toluene	100 ppm	N.E.	100 ppm	N.E.	N.E.	NO

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear thin liquid	Octanol/Water Coefficient: Log K _{ow} = NA
Odor: Typical solvent odor	Vapor Pressure: 22 mm Hg @ 20°C
Physical state: Thin liquid	Vapor Density (air=1): > air
PH: Not applicable	Percent Volatile by Volume: 23-28%
DOT Corrosivity: Not applicable	Volatile Organic Content: 200 gm/liter
Boiling Point: 230-232° F	Molecular Weight: NA
Melting Point: NA	Average Carbon Number: NA
Specific Gravity: 1.08	Viscosity @ 100F: NA
Pour Point: NA	Viscosity @ 40C: NA
Solubility in Water: slightly soluble in water	

10. STABILITY AND REACTIVITY INFORMATION

Conditions to Avoid: Long term exposure to elevated temperatures.

Incompatible: Strong bases or oxidants. Strong Lewis or mineral acids.

Hazardous decomposition products: Poisonous & acrid fumes released on burning. Acrid fumes. Oxides of carbon.

Stability: This product is stable under normal storage conditions.

11. TOXICOLOGICAL INFORMATION

Primary Eye Irritation: Irritating

Primary Skin Irritation: Irritating

Acute Dermal Toxicity: NA

Subacute Dermal Toxicity: NA

Dermal Sensitization: NA

Inhalation Toxicity: Product toxicity has not been determined. Following are LC₅₀ component data:
Toluene: Rat >26,000 ppm 1 hr; Mouse 400 ppm 24 hr

Inhalation Sensitization: NA

Oral Toxicity: Product toxicity has not been determined. Following are component data:
Toluene: Rat 5,000 mg/kg

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: Review all local, state and federal regulations concerning health and pollution for appropriate disposal procedures.

14. TRANSPORTATION INFORMATION

U.S. Department of Transportation (DOT)

Highway/Rail (Bulk): Flammable liquid

Highway/Rail (Non-Bulk): Flammable Liquid, PGII, UN 1263

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 3.2 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	CAS Number	Percent in Product
Toluene	108-88-3	15-25

Regulatory Lists Searched

Health & Safety: NA

Environmental: NA

International: NA

State: FL, MA, MN, PA, RI

National Inventories: NA

California Proposition 65 Information: Warning! This product contains chemicals known to the State of California to cause cancer, birth defects or developmental toxicity.

Chemical	CAS Number	Percent in Product
Toluene	108-88-3	15-25

Canadian WHMIS Classification

Class: B

Division: 2

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

Health and Environmental Label Language

All ingredients contained in this product are included on the US EPA Toxic Substances Control Act (TSCA) inventory or exempt from listing on the TSCA inventory. All ingredients contained in this product comply with the requirements of the Canadian Environmental Protection Act (CEPA) and are listed on the Domestic Substance List (DSL) or Non-Domestic Substance List (NDSL)

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

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: 12/30/04

Date: 6/30/06

TUFFLEX POLYMERS, LLC

MATERIAL SAFETY DATA SHEET

1. PRODUCTS AND COMPANY IDENTIFICATION

Product Name: TUFF-POXY PRIMER #2, PART B

Product Use: Hardener For Epoxy Resin Primer

Manufacturer/Supplier

TUFFLEX POLYMERS, LLC

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Fontana, CA 92337

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2. COMPONENT INFORMATION

OCCUPATIONAL EXPOSURE LIMITS

Hazardous Components	CAS No.	OSHA PEL	ACGIH TLV	MFG TLV	Vapor Pressure mm Hg @ Temp
Toluene	108-88-3	200 ppm	50 ppm		22.0 @ 68° F
Modified Polyethylenepolyamine Adduct	Trade Secret	N/E	N/E		
Nonyl Phenol	251-4-52-3	N/E	N/E		1.0 @ 68° F

Information concerning non-hazardous ingredients is considered a trade secret.

3. HAZARDS IDENTIFICATION

NFPA Classification: H 2 F 3 R 1

Primary Route of Exposure: Skin Inhalation Eye Ingestion

Health Effect Information

Eye Contact: Corrosive to the eyes and may cause severe eye irritation if wiped or rubbed into eyes. Can injure eye tissue, which may result in permanent damage.

Skin Contact: May cause skin irritation if wiped or left on the skin. Repeated or prolonged contact with skin may cause sensitization.

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

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

Chronic Hazards: No known components of this product are listed as known or suspected carcinogens per NIOSH, NTP, IARC, or OSHA. Preexisting respiratory or skin condition(s) may be aggravated by exposure.

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

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. Wash contaminated clothes before reuse.

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, Do Not induce vomiting. Give victim a glass of water or milk. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person. Should vomiting occur, be sure to keep victim's head below hips to avoid aspiration of vomitus into lungs.

5. FIRE FIGHTING MEASURES

Flash Point: 45°F Lower Explosive Limit: 1.4
(Setaflash Closed Cup) Upper Explosive Limit: 7.4
Autoignition Temperature: N/D
Extinguishing Media: Foam, CO₂, Dry Chemical, Water, Fog

Unusual fire and explosion hazards: Fire produces irritating or poisonous gas. Liquid is combustible when hot. Can form explosive mixtures at temperatures at or above the flashpoint. "Empty" containers retain product residue (liquid an/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, OR OTHER SOURCES OF IGNITION; CONTAINERS MAY EXPLODE AND CAUSE INJURY OR DEATH.

Special Firefighting Procedures: Containers exposed to fire should be kept cool with water spray. As in fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent) and full protective gear. Water runoff can cause environmental damage. Dike and collect water used to fight fire.

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Engineering Controls: Local exhaust ventilation may be necessary to control any air contaminants to within their TLVs during the use of this product.

Respiratory Protection: Wear NIOSH/MSHA approved respiratory protection when the product is mixed or applied in a poorly ventilated area or if workplace levels of ingredients exceed the TLV. Follow applicable federal, state, and local regulations.

Other Protective Equipment: Where contact is likely, wear chemical resistant gloves, chemical safety goggles with face shield, and clean protective clothing to cover arms and legs to keep exposure to a minimum.

Hygiene Practices: Do not take internally. Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Avoid breathing vapors from heated material. Avoid contact with eyes, skin, and clothing.

EXPOSURE LIMIT						
ITEM	ACGIH		OSHA		COMPANY	
	TLV-TWA	TLV-STEL	PEL-TWA	PEL-CEILING	TLV-TWA	SKIN
Modified Polyethylenepolyamine Adduct	N.E.	N.E.	N.E.	N.E.	N.E.	NO
Toluene	100 ppm	N.E.	100 ppm	N.E.	N.E.	NO

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Amber thin liquid	Octanol/Water Coefficient: Log K _{ow} = NA
Odor: Typical solvent odor	Vapor Pressure: 22 mm Hg @ 20°C
Physical state: Thin liquid	Vapor Density (air=1): > air
PH: Not applicable	Percent Volatile by Volume: 23-28%
DOT Corrosivity: Not applicable	Volatile Organic Content: 200 gm/liter
Boiling Point: 230-232° F	Molecular Weight: NA
Melting Point: NA	Average Carbon Number: NA
Specific Gravity: 0.93	Viscosity @ 100F: NA
Pour Point: NA	Viscosity @ 40C: NA
Solubility in Water: slightly soluble in water	

10. STABILITY AND REACTIVITY INFORMATION

Conditions to Avoid: Long term exposure to elevated temperatures.

Incompatible: Strong bases or oxidants. Strong Lewis or mineral acids.

Hazardous decomposition products: Poisonous & acrid fumes released on burning. Acrid fumes. Oxides of carbon.

Stability: This product is stable under normal storage conditions.

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: Product toxicity has not been determined. Following are LC₅₀ component data:
Toluene: Rat > 26,000 ppm 1 hr; Mouse 400 ppm 24 hr

Inhalation Sensitization: NA

Oral Toxicity: Product toxicity has not been determined. Following are component data:
Toluene: Rat 5,000 mg/kg

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

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

Waste Disposal Methods: Review all local, state and federal regulations concerning health and pollution for appropriate disposal procedures.

14. TRANSPORTATION INFORMATION

U.S. Department of Transportation (DOT)

Highway/Rail (Bulk): Flammable liquid

Highway/Rail (Non-Bulk): Flammable Liquid, PGII, UN 1263

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International Information

Vessel: IMDG Regulated: Class 3.2 IMDG Not Regulated

Air: ICAO Regulated: Class 3 ICAO Not Regulated

Other: No other information available

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

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Toluene	108-88-3	15-25

Regulatory Lists Searched

Health & Safety: NA

Environmental: NA

International: NA

State: FL, MA, MN, PA, RI

National Inventories: NA

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

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

MSDS Revisions

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