

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Tuffbond® 34551A	Product Type: Epoxy Adhesive
Company : Hernon Manufacturing, Inc. 121 Tech Drive Sanford, FL 32771	Contact Information: Telephone: 407-322-4000 Emergency Telephone: 800-255-3924 Web Site: www.hernon.com

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Physical state: Liquid
Color: Blue
Odor: Mild

HMIS:
HEALTH: 2*
FLAMMABILITY: 1
PHYSICAL HAZARD: 0
Personal Protection: See Section 8

WARNING: MAY BE HARMFUL IF INHALED.
MAY CAUSE EYE, AND SKIN IRRITATION.
MAY BE HARMFUL IS SWALLOWED

Primary Routes of Entry: Skin, inhalation, eyes

Signs and Symptoms of Exposure:

Inhalation: This material does not normally present an inhalation hazard, however, in applications where vapors (caused by high temperatures) or mists (caused by mixing) are created, breathing may cause a mild burning sensation in the nose, throat and lungs.

Eye Contact: May cause severe irritation to the eye. Contact with hot material can cause thermal burns which may result in permanent damage or blindness.

Skin Contact: May be irritating to the skin. Repeated skin contact may result in an allergic skin reaction causing itching, burning, redness, and swelling. Contact with hot matter can cause thermal burns which may result in permanent damage.

Ingestion: May be moderately toxic if swallowed.

Existing Conditions Aggravated by Exposure: Eye, skin, and respiratory disorders.

3. COMPOSITION / INFORMATION ON INGREDIENTS

<u>Ingredients</u>	<u>%</u>	<u>ACGIH TLV</u>	<u>OSHA PEL</u>	<u>OTHER</u>
Epoxy resin	60-100	None	None	None
Silica, fumed	1-5	6 mg/m ³ TWA	10 mg/m ³ TWA	3 mg/m ³ TWA respirable dust

4. FIRST AID MEASURES	
Ingestion:	Do not induce vomiting. Keep individual calm. Obtain medical attention.
Inhalation:	Remove to fresh air. If symptoms develop and persist, get medical attention.
Skin Contact:	Wash with soap and water. Remove contaminated clothing and shoes. Wash clothing before reuse. Get medical attention if symptoms occur.
Eye Contact:	Flush with water for at least 15 minutes. Get medical attention.
5. FIRE FIGHTING MEASURES	
Flash Point (TCC):	> 200°F
Recommended Extinguishing Agents:	Water fog, carbon dioxide, foam, dry chemical
Special Firefighting Procedures:	Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear. Water may be used to cool closed containers. High pressure stream will spread fire.
Hazardous Combustion Products:	Irritating organic vapors
Unusual Fire or Explosion Hazards:	None
Flammable/Explosive Limits – lower %:	NA
Flammable/Explosive Limits – upper %:	NA
6. ACCIDENTAL RELEASE MEASURES	
Personal Precautions:	Wear proper protective equipment
Measures for Environmental Protection:	Do not allow entry into drains or surface waters
Clean-up Measures:	Soak up with an inert absorbent. Store in partly filled, closed container until disposal.
7. HANDLING AND STORAGE	
Handling:	Avoid contact with eyes, skin and clothing. Avoid breathing vapor and mist. Wash thoroughly after handling. Use only with adequate ventilation.
Storage:	Store between 46° and 82°F unless otherwise labeled to preserve shelf life.
8. EXPOSURE CONTROLS, PERSONAL PROTECTION	
Eye/Face Protection:	Safety glasses or goggles with side shields
Skin Protection:	Use rubber or plastic gloves, and protective clothing as necessary
Respiratory Protection:	Use NIOSH approved respirator if there is a potential to exceed exposure limits
Engineering Controls:	Forced ventilation may be required if concentrations exceed exposure limits

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid
Color:	Blue
Odor:	Mild
Vapor Pressure:	<0.13 mbar at 20°C
Vapor Density:	Not available
Solubility in Water:	Negligible
Specific Gravity:	1.18
Boiling Point:	More than 300°F
Volatile Organic Compound Content	0.2%
Evaporation Rate (Ether = 1)	Not available
pH:	Does not apply

10. STABILITY AND REACTIVITY

Stability:	Stable
Hazardous Polymerization:	Will not occur
Hazardous Decomposition Products:	Carbon monoxide, aldehydes, acids
Incompatibility:	Strong oxidizing agents, strong bases

11. TOXICOLOGICAL INFORMATION

Ingredients:	Literature Referenced Target Organ and Other Health Effects	Carcinogen Status		
		NTP	IARC	OSHA
Epoxy resin	IRR	NO	NO	NO
Silica, fumed	NTO	NO	NO	NO

Abbreviations:

IRR Irritant NTO No Target Organs

12. ECOLOGICAL INFORMATION

Ecological Information: Not available

13. DISPOSAL CONSIDERATIONS

Recommended methods of disposal: Dispose of according to Federal, State and Local regulations.
EPA Hazardous Waste Number: Not an RCRA hazardous waste

14. TRANSPORTATION INFORMATION

U.S. Dept. of Transportation Ground (49 CFR):

Proper Shipping Name	Unrestricted
Hazard Class or Division:	None
Identification Number	None
Packing group:	None

International Air Transportation (ICAO/IATA):

Proper Shipping Name:	Unrestricted
Hazard Class or Division:	None
Identification Number	None
Packing group:	None

Water Transportation (IMO/IMDG):

Proper Shipping Name:	Unrestricted
Hazard Class or Division:	None
Identification Number	None
Packing group:	None
Marine pollutant:	None

15. REGULATORY INFORMATION

United States Regulatory Information

TSCA 8 (b) Inventory Status:	All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory
CERCLA/SARA 313:	This product contains the following chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372): None
California Proposition 65:	This product contains trace quantities of a substance known to the state of California to cause cancer.

16. OTHER INFORMATION

Prepared By:	Jerry Litteral
Title:	Director - Quality & Development

DISCLAIMER: Some of the information presented is from sources other than direct test data on the product itself. The information in this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Tuffbond® 34551B	Product Type: Epoxy Hardener
Company : Hernon Manufacturing, Inc. 121 Tech Drive Sanford, FL 32771	Contact Information: Telephone: 407-322-4000 Emergency Telephone: 800-255-3924 Web Site: www.hernon.com

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Physical state: Liquid
Color: Yellow
Odor: Ammonia

HMIS:
HEALTH: 3*
FLAMMABILITY: 1
PHYSICAL HAZARD: 1
Personal Protection: See Section 8

WARNING: CORROSIVE TO THE EYE AND SKIN.
MAY CAUSE ALLERGIC SKIN REACTION.
MAY CAUSE RESPIRATORY TRACT IRRITATION.
MAY BE HARMFUL IF SWALLOWED.

Primary Routes of Entry: Skin, Inhalation, Eyes

Signs and Symptoms of Exposure:

Inhalation: May be toxic if inhaled. Vapors/mists may be corrosive to upper respiratory tract. May cause respiratory tract sensitization.

Skin contact: Corrosive to the skin. May cause allergic skin reaction. May cause skin irritation. May cause skin sensitization.

Eye contact: Corrosive to the eyes.

Ingestion: Corrosive to mouth, throat and stomach.

Existing Conditions Aggravated by Exposure: Eye, skin, and respiratory disorders.

3. COMPOSITION / INFORMATION ON INGREDIENTS

<u>Hazardous Ingredients</u>	<u>%</u>	<u>ACGIH TLV</u>	<u>OSHA PEL</u>	<u>OTHER</u>
Epoxy curing agent	70-100	None	None	None
Silica, fumed	1-5	6 mg/m³ TWA	10 mg/m³ TWA	3 mg/m³ TWA respirable dust

4. FIRST AID MEASURES

Ingestion: Do not induce vomiting. Give one glass of water unless victim is drowsy, convulsing, or unconscious. Seek medical attention immediately.

Inhalation: Remove victim to fresh air and provide oxygen if breathing is difficult. Give artificial respiration if not breathing. Get medical attention.

Skin Contact: Wash with soap and water. Remove contaminated clothing and shoes. Wash clothing before reuse. Get medical attention.

Eye Contact: Flush with copious amounts of water, preferably, lukewarm water for at least 15 minutes, holding eyelids open all the time. Get medical attention.

5. FIRE FIGHTING MEASURES	
Flash Point (TCC):	> 200°F
Recommended Extinguishing Agents:	Use water fog, "alcohol foam", dry chemical or carbon dioxide. Water or fog may cause frothing which can be violent, Water or fog may cause frothing which can be violent, especially if sprayed into containers of hot or burning liquid.
Special Firefighting Procedures:	Do not enter confined fire space without full bunker gear (helmet with face shield, bunker coats, gloves and rubber boots). including a positive pressure NIOSH approved selfcontained breathing apparatus.
Hazardous Combustion Products:	Nitrogen oxides and other potentially hazardous nitrogen containing compounds may be released upon combustion.
Unusual Fire or Explosion Hazards:	Material will not burn unless preheated. Delayed lung damage (pulmonary edema) can be experienced after exposure to combustion products, sometimes hours after the exposure.
Flammable/Explosive Limits – lower %:	Not available
Flammable/Explosive Limits – upper %:	Not available
6. ACCIDENTAL RELEASE MEASURES	
Personal Precautions:	Corrosive. Prevent all bodily contact with spilled material. Shut off leaks, if possible without personal risk. Remove ignition sources.
Measures for Environmental Protection:	Dike and contain. Contain run-off and dispose of properly. Do not allow entry into drains or surface waters
Clean-up Measures:	Small Spills: Take up with an absorbent material and place in non-leaking containers. Seal tightly for proper disposal. Large Spills: Remove with vacuum trucks or pump to storage/salvage vessels. Soak up residue with an absorbent such as clay, sand or other suitable material; place in non-leaking containers for proper disposal. Flush area with water to remove trace residue.
7. HANDLING AND STORAGE	
Handling:	Avoid contact with eyes, skin and clothing. Avoid breathing vapor and mist. Wash thoroughly after handling. Use only with adequate ventilation.
Storage:	Store between 46° and 82°F unless otherwise labeled to preserve shelf life.
8. EXPOSURE CONTROLS, PERSONAL PROTECTION	
Eye/Face Protection:	Safety glasses or goggles with side shields
Skin Protection:	Use rubber or plastic gloves, and protective clothing as necessary
Respiratory Protection:	Use NIOSH approved respirator if there is a potential to exceed exposure limits
Engineering Controls:	Forced ventilation may be required if concentrations exceed exposure limits

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid
Color:	Yellow
Odor:	Ammonia
Vapor Pressure:	Less than 5 mm at 80°F
Vapor Density:	Not available
Solubility in Water:	Insoluble
Specific Gravity:	0.99
Boiling Point:	> 300°F
Volatile Organic Compound Content	Not available
Evaporation Rate (Ether = 1)	Not available
pH:	Does not apply

10. STABILITY AND REACTIVITY

Stability:	Stable
Hazardous Polymerization:	Will not occur
Hazardous Decomposition Products:	Nitrogen oxides, carbon monoxide and unidentified organic compounds may be formed during combustion.
Incompatibility:	Strong oxidizers.

11. TOXICOLOGICAL INFORMATION

Ingredients:	Literature Referenced Target Organ and Other Health Effects	Carcinogen Status		
		NTP	IARC	OSHA
Epoxy curing agent	ALG COR IRR	NO	NO	NO
Silica, fumed	NTO	NO	NO	NO

Abbreviations:

ALG Allergen **IRR** Irritant **COR** Corrosive **NTO** No Target Organs

12. ECOLOGICAL INFORMATION

Ecological Information: Not available

13. DISPOSAL CONSIDERATIONS

Recommended methods of disposal: Dispose of according to Federal, State and Local regulations.
EPA Hazardous Waste Number: Not an RCRA hazardous waste

14. TRANSPORTATION INFORMATION

U.S. Dept. of Transportation Ground (49 CFR):

Proper Shipping Name Polyamines, Liquid, Corrosive, N.O.S.
Hazard Class or Division: 8
Identification Number UN 2735
Packing group: III

International Air Transportation (ICAO/IATA):

Proper Shipping Name: Polyamines, Liquid, Corrosive, N.O.S.
Hazard Class or Division: 8
Identification Number UN 2735
Packing group: III

Water Transportation (IMO/IMDG):

Proper Shipping Name: Polyamines, Liquid, Corrosive, N.O.S.
Hazard Class or Division: 8
Identification Number UN 2735
Packing group: III
Marine pollutant: Not available

15. REGULATORY INFORMATION

United States Regulatory Information

TSCA 8 (b) Inventory Status: All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory
CERCLA/SARA 313: This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372): None

16. OTHER INFORMATION

Prepared By: Jerry Litteral
Title: Director - Quality & Development

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