

4020 GEL EPOXY
PART B – HARDENER

SAFETY DATA SHEET

Section 1: IDENTIFICATION

1.1 PRODUCT IDENTIFIER

Product Name: 4020 Gel Epoxy Part B Hardener

1.2 RECOMMENDED USE OF CHEMICAL AND RESTRICTIONS ON USE

Use: Various.

1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Name/Address: Fortress Stabilization Systems
184 West 64th Street
Holland, MI 49423

Telephone Number: Toll Free: 800-207-6204 **Office:** 616-355-1421 **F ax:** 616-355-1428

1.4 EMERGENCY TELEPHONE NUMBER

Emergency Telephone Number: ChemTel: 800-255-3924
Int'l.: 813-248-0585

Section 2: HAZARD(S) IDENTIFICATION

2.1 CLASSIFICATION OF THE CHEMICAL

Hazard class

Acute toxicity 4 (Oral, Dermal)
Skin Corrosion 1A
Serious eye damage 1
Skin sensitization 1
Respiratory sensitization 1
Specific target organ toxicity - Single exposure 3

2.2 LABEL ELEMENTS Hazard

Pictogram:



Signal Word:

Danger

Hazard Statement:

Harmful if swallowed. Harmful in contact with skin. Causes severe skin burns and eye damage. May cause an allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause respiratory irritation. May cause drowsiness or dizziness.

Prevention:

Keep only in original container. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Do not breathe dusts or mists. Wear protective gloves/protective clothing/eye protection/face protection. Contaminated work clothing must not be allowed out of the workplace. Wear respiratory protection. Use only outdoors or in a well-ventilated area.

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- Response:** Absorb spillage to prevent material damage. If swallowed: Rinse mouth. Do NOT induce vomiting. Immediately call a poison center/doctor. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical advice/attention. If inhaled: Remove person to fresh air and keep comfortable for breathing. Immediately call a poison center/doctor. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor.
- Storage:** Store in corrosive resistant container with a resistant inner liner. Store locked up. Store in a well-ventilated place. Keep container tightly closed.
- Disposal:** Dispose of contents and container in accordance with all local, regional, national and international regulations.

2.3 ADDITIONAL INFORMATION

Hazards not otherwise classified: Not Applicable
94.9 % of the mixture consists of ingredient(s) of unknown acute toxicity.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 MIXTURES

Ingredient	CAS No
Proprietary Blend of Aliphatic & Cycloaliphatic Amines and Other Adducts	Proprietary

The specific chemical identity and exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200.

** Exposure to Limestone and Aluminum Silicate is applicable only when cured with Component "A" and sanded.

Section 4: FIRST- AID MEASURES

4.1 DESCRIPTION OF THE FIRST AID MEASURE

- Eye:** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. If easy to do, remove contact lenses, if worn. Get medical attention immediately.
- Skin:** In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Get medical attention immediately.
- Inhalation:** If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.
- Ingestion:** If swallowed, do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical advice/attention.

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4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

- Eye:** Corrosive material - May cause burns. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.
- Skin:** Harmful in contact with skin. Causes severe skin burns. Symptoms may include redness, edema, drying, defatting and cracking of the skin. May cause sensitization by skin contact.
- Inhalation:** May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause respiratory irritation. May cause drowsiness or dizziness.
- Ingestion:** Harmful if swallowed. May cause stomach distress, nausea or vomiting.

4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENTS NEEDED

- Note to Physicians:** Symptoms may not appear immediately.
- Specific Treatments:** In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

Section 5: FIRE-FIGHTING MEASURES

5.1 EXTINGUISHING MEDIA

- Suitable Extinguishing Media:** In case of large fire use: alcohol foam, water spray. In case of small fire use: carbon dioxide (CO₂), dry chemical, dry sand or limestone.
- Unsuitable Extinguishing Media:** Not available.

5.2 SPECIAL HAZARDS ARISING FROM THE CHEMICAL

- Products of Combustion:** May generate toxic or irritating combustion products. May include, and are not limited to: oxides of carbon, oxides of nitrogen, ammonia.

5.3 SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIRE FIGHTERS

Keep upwind of fire. Wear full firefighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

Section 6: ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel.

6.2 METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING - UP

- Methods for Containment:** Stop leak if safe to do so. Provide ventilation and confine spill. If leak or spill has not ignited, use water spray to disperse the vapors. Stop spill at source; dike area to prevent spreading. Use appropriate Personal Protective Equipment (PPE).
- Methods for Cleaning-Up:** Absorb spillage in a non-combustible absorbent, e.g. sand or vermiculite, and place in a suitable container for disposal. Thoroughly wash the area with water after a spill or leak. If liquid has been spilled in large quantities clean up promptly by scoop or vacuum.

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Section 7: HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING

- Handling:** Avoid contact with skin and eyes. Do not swallow. Avoid breathing dust/fume/gas/mist/vapors/spray. Handle and open container with care. When using do not eat or drink. (See section 8)
- General Hygiene Advice:** Launder contaminated clothing before reuse. Wash hands before eating, drinking, or smoking.

7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

- Storage:** Keep out of the reach of children. Store in dust-tight, dry, labeled containers. Keep containers closed when not in use. Do not store in an area equipped with emergency water sprinklers. Keep only in original container. Store in corrosive resistant container with a resistant inner liner. (See section 10)

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 CONTROL PARAMETERS Exposure Guidelines

Occupational Exposure Limits		
Ingredient	OSHA-PEL	ACGIH-TLV
Proprietary Blend of Aliphatic and Cycloaliphatic Amines	0.5 ppm TLV 2.3 mg/m ³ TWA	Not available.

8.2 EXPOSURE CONTROLS

- Engineering Controls:** Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, etc.) below recommended exposure limits.

8.3 INDIVIDUAL PROTECTIVE MEASURES

Personal Protective Equipment:

- Eye/Face Protection:** Wear approved eye (properly fitted dust- or splash-proof chemical safety goggles) / face (face shield) protection.
- Hand Protection:** Butyl gloves. Nitrile gloves. Neoprene gloves.
- Body Protection:** 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. Slicker suit. Rubber boots. Full rubber suit (rain gear), butyl or latex protective clothing
- Respiratory Protection:** A NIOSH approved dust mask or filtering facepiece is recommended in poorly ventilated areas or when permissible exposure limits may be exceeded. Respirators should be selected by and used under the direction of a trained health and safety professional following requirements found in OSHA's respirator standard (29 CFR 1910.134) and ANSI's standard for respiratory protection (Z88.2).

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General Health and Safety Measures:

Handle according to established industrial hygiene and safety practices. Do not eat, smoke or drink where material is handled, processed or stored. Wash hands carefully before eating or smoking.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Gel-Like Viscous Liquid
Color:	Ruby Red
Odor:	Ammoniacal
Odor Threshold:	Not Available
Physical State:	Gel
pH:	Alkaline.
Melting Point/Freezing Point:	Not available.
Initial Boiling Point and Boiling Range:	> 176 °C (> 349°F)
Flash Point:	> 110°C (> 230°F)
Evaporation Rate:	< 1
Flammability:	Not Flammable.
Lower Flammability/Explosive Limit:	Not available.
Upper Flammability/Explosive Limit:	Not available.
Vapor Pressure:	< 1 mmHG
Vapor Density:	Not available
Relative Density/Specific Gravity:	0,99 – 1.01
Solubility:	<1.00 % (Slight)
Partition coefficient: n-octanol/water:	Not available.
Auto-ignition Temperature:	Not available.
Decomposition Temperature:	Not available.
Viscosity:	> 4000 poises
Percent Volatile, wt. %:	Not applicable.
VOC content, wt. %:	0 lbs./gal or 0 g/L, less water and exempt solvents

Section 10: STABILITY AND REACTIVITY

10.1 REACTIVITY

No dangerous reaction known under conditions of normal use.

10.2 CHEMICAL STABILITY

Stable under normal storage conditions.

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10.3 POSSIBILITY OF HAZARDOUS REACTIONS

No dangerous reaction known under conditions of normal use. May be corrosive to metals. Product slowly erodes copper, aluminum, zinc, and galvanized surfaces. Reactions with peroxides may result in violent decomposition of peroxide possibly creating an explosion. A reaction accompanied by large heat release occurs when the product is mixed with acid.

10.4 CONDITIONS TO AVOID

Incompatible materials. Moisture.

10.5 INCOMPATIBLE MATERIALS

Mineral acids. Organic acids. Oxidizing Agents. Reactive metals. Calcium Hypochlorite. Peroxides. Hydroxyl compounds.

10.6 HAZARDOUS DECOMPOSITION PRODUCTS

May include, and are not limited to: oxides of carbon, oxides of nitrogen, ammonia. Nitric acid in a fire. Aldehydes.

Section 11: TOXICOLOGICAL INFORMATION

11.1 INFORMATION ON TOXICOLOGICAL EFFECTS

Likely Routes of Exposure: Skin contact, skin absorption, eye contact, inhalation, and ingestion.

Symptoms related to physical/chemical/toxicological characteristics:

Eye: Corrosive material - May cause burns. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.

Skin: Harmful in contact with skin. Causes severe skin burns. Symptoms may include redness, edema, drying, defatting and cracking of the skin. May cause sensitization by skin contact.

Ingestion: Harmful if swallowed. May cause stomach distress, nausea or vomiting.

Inhalation: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause respiratory irritation. May cause drowsiness or dizziness.

Acute Toxicity:

Ingredient	LD50 (oral)	LD50 (dermal)
Proprietary Blend of Aliphatic and Cycloaliphatic Amines	>1080.00 mg/kg, rat	>1090.00 mg/kg, rabbit

Ingredient	Chemical Listed as Carcinogen Or Potential Carcinogen (NTP, IARC, OSHA, ACGIH, CP65)*
Proprietary Blend of Aliphatic and Cycloaliphatic Amines	Not Available.

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11.2 DELAYED, IMMEDIATE, AND CHRONIC EFFECTS OF SHORT- AND LONG-TERM EXPOSURE

Skin Corrosion/Irritation:	Causes severe skin burns.
Serious Eye Damage/Irritation:	Causes serious eye damage.
Respiratory Sensitization:	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin Sensitization:	May cause an allergic skin reaction.
STOT-Single Exposure:	May cause respiratory irritation. May cause drowsiness or dizziness.
Chronic Health Effects:	Based on available data, the classification criteria are not met.
Carcinogenicity:	This product is not classified as a carcinogen.
Germ Cell Mutagenicity:	This product is not classified as a mutagen.
Reproductive Toxicity:	
Developmental:	This product does not contain known reproductive or developmental toxins.
Fertility:	No known significant effects or critical hazards.
STOT-Repeated Exposure:	Based on available data, the classification criteria are not met.
Aspiration Hazard:	Based on available data, the classification criteria are not met.
Toxicologically Synergistic Materials:	Not available.
Other Information:	Not available.

Section 12: ECOLOGICAL INFORMATION

12.1 ECOTOXICITY	Acute/Chronic Toxicity: May cause long-term adverse effects in the aquatic environment.
12.2 PERSISTENCE AND DEGRADABILITY	Not available.
12.3 BIOACCUMULATIVE POTENTIAL	Bioaccumulation: Not Available
12.4 MOBILITY IN SOIL	Not available.
12.5 OTHER ADVERSE EFFECTS	Not available.

Section 13: DISPOSAL CONSIDERATIONS

13.1 WASTE TREATMENT METHODS

Disposal Method:	This material must be disposed of in accordance with all local, state, provincial, and federal regulations.
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Section 14: TRANSPORT INFORMATION

- 14.1 UN NUMBER:** 3267
14.2 UN PROPER SHIPPING NAME: CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (ALIPHATIC AMINE)
14.3 TRANSPORT HAZARD CLASS(ES): 8
14.4 PACKING GROUP: III
14.5 ENVIRONMENTAL HAZARDS: ALIPHATIC AMINE
14.6 DOT NON-BULK SHIPPING NAME: UN 3267, CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (ALIPHATIC AMINE), 8, III, Limited Quantity ≤ 5 L
14.7 IMO ICAO/IATA SHIPPING DATA: UN 3267, CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S (ALIPHATIC AMINE), 8, III SCHEDULE B# 3908100000
14.8 TRANSPORT IN BULK ACCORDING TO ANNEX II OF MARPOL 73/78 AND THE IBC CODE:
 Not available
14.9 SPECIAL PRECAUTIONS FOR USER: Do not handle until all safety precautions have been read and understood.

Section 15: REGULATORY INFORMATION

15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/ LEGISLATIONS SPECIFIC FOR THE CHEMICAL

MSDS prepared pursuant to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012

SARA Title III				
Ingredient	Section 302 (EHS) TPQ (lbs.)	Section 304 EHS RQ (lbs.)	CERCLA RQ (lbs.)	Section 313
Proprietary Blend of Aliphatic and Cycloaliphatic Amines	Not available.	Not available.	Not Available.	Not Available

STATE REGULATIONS

California Proposition 65:

This product may contain trace amounts of chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

Global Inventories

Ingredient	USA TSCA
Proprietary Blend of Aliphatic and Cycloaliphatic Amines	Yes.

NFPA - National Fire Protection Association:	
Health:	3
Fire:	1
Reactivity:	0
Hazard Rating: 0 = minimal, 1 = slight, 2 = moderate, 3 = severe, 4 = extreme	

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SOURCE AGENCY CARCINOGEN CLASSIFICATIONS:

OSHA (O)**Occupational Safety and Health Administration.****ACGIH (G)****American Conference of Governmental Industrial Hygienists.**

A1 - Confirmed human carcinogen. A2 - Suspected human carcinogen. A3 - Animal carcinogen.

A4 - Not classifiable as a human carcinogen.

A5 - Not suspected as a human carcinogen.

IARC (I)**International Agency for Research on Cancer.**

1 - The agent (mixture) is carcinogenic to humans.

2A - The agent (mixture) is probably carcinogenic to humans; there is limited evidence of carcinogenicity in humans and sufficient evidence of carcinogenicity in experimental animals.

2B - The agent (mixture) is possibly carcinogenic to humans; there is limited evidence of carcinogenicity in humans in the absence of sufficient evidence of carcinogenicity in experimental animals.

3 - The agent (mixture, exposure circumstance) is not classifiable as to its carcinogenicity to humans.

4 - The agent (mixture, exposure circumstance) is probably not carcinogenic to humans.

NTP (N)**National Toxicology Program.**

1 - Known to be carcinogens.

2 - Reasonably anticipated to be carcinogens.

TOXIC SUBSTANCES CONTROL ACT (TSCA): All components are included in the EPA Toxic Substances Control Act (TSCA)

Chemical Substance Inventory.

TOXIC SUBSTANCE CONTROL ACT (TSCA) 12(b) COMPONENT(S): None

OSHA Hazard Communication Standard (29CFR1910.1200) hazard class(es): Corrosive. Sensitizer.

EPA SARA Title III Section 312 (40CFR370) hazard class: Immediate Health Hazard. Delayed Health Hazard.

EPA SARA Title III Section 313 (40CFR372) toxic chemicals above "de minimis" level are: None

INTERNATIONAL REGULATIONS- CANADA

DSL: Included on inventory.

WHMIS HAZARD CLASSIFICATION: Class D Division 2A, Class D Division 2B, Class E Corrosive.

WHMIS INGREDIENT DISCLOSURE LIST

WHMIS TRADE SECRET REGISTRY NUMBER(S): None

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.: None

WHMIS SYMBOLS: Test tube/hand, Stylized T

Section 16: OTHER INFORMATION

HMIS Classification:

Health	3
Flammability	1
Reactivity	0

NFPA Classification:



HMIS and NFPA ratings are not required under 29 CFR 1910.1200 but are provided by E-Bond Epoxies, Inc as a customer service.

Disclaimer: The information on this Safety Data Sheet represents our current data and best opinion as to the proper use and handling of the product identified and described on this document under normal conditions. They are given without warranty or guarantee of any kind. Any use of the product which is not in conformance with this data sheet or which involves using the product in combination with any other product or any other process is the responsibility of the user. The user must read and follow instructions on this Safety Data Sheet, the Product Data Sheet and Product Labels prior to use of the product.

Date of Preparation: 01/28/15**Version: 1****Date of Revision: 01/28/15**