MATERIAL SAFETY DATA SHEET

FORTRESS STABILIZATION SYSTEMS
184 West 64th Street
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Holland MI 49423
EMERGENCY PH: 800-207-6204

PRODUCT NAME: **FORTRESS #4020**
EPOXY GEL COMP B (Hardener)

DATE: 04/22/05

I. INGREDIENT

		OSHA – ACGIH			
	C.A.S NO.	TLV - TWA		STEL	
		ppm	mg/m3	ppm	mg/m3
Proprietary Blend of, Aliphatic and Cycloaliphatic Amines	Trade Secret	0.5	2.3	N/E	N/E

* N/E = Not Established

II. EMERGENCY OVERVIEW

HMIS HEALTH	3	FLAMMABILITY	1	REACTIVITY	0

PHYSICAL FORM: Gel like.
COLOR: Yellow
ODOR: Irritating
HAZARDS: Harmful if in contact with skin. Harmful if swallowed. Corrosive to eyes. Corrosive to skin. Severe eye irritant. Sever respiratory tract irritant. Severe skin irritant. May cause respiratory sensitization. May cause skin sensitization.

EXTINGUISHING MEDIA: Ignition will give rise to a Class B fire. 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.

III. PHYSICAL DATA

Boiling Point:.....>392°F/(200°C)
Vapor Pressure:.....< 2.0 MMHG
Vapor Density:.....N/A
Evaporation Rate:.....< 1 BUDAC = 1
Solubility in Water.....COMPLETELY (100%)
Specific Gravity:..... > 1.0 WATER=1
Percent Volatile:.....NEGLIG.
Volatile Organic Compounds:.....N/A
Voc Less H2O & Exempt Solvents:.....N/A
PH:.....Alkaline
Melting Point.....N/A
Appearance and Odor.....YELLOW, GEL LIKE, IRRITATING ODOR

IV. FIRE & EXPLOSION DATA

Flash Point:.....>230 °F/110°C
Flammable Limits - LEL:.....N/D
Flammable Limits - UEL:.....N/D
Autoignition Temperature:.....N/D
Fire Hazard Classification: ..... CLASS IIIB
(OSHA/NFPA)
Extinguishing Media
Ignition will give rise to a Class B fire. In case of large fire use: water spray, alcohol foam. In case of small fire use: carbon dioxide (CO2), dry chemical, dry sand or limestone.

SPECIAL FIRE FIGHTING PROCEDURES

Ignition will give rise to a Class B fire. In case of large fire use: water spray, alcohol foam. In case of small fire use: carbon dioxide (CO2), dry chemical, dry sand or limestone.

UNUSUAL FIRE AND EXPLOSION HAZARDS

May generate toxic or irritating combustion products.
Contact of liquid with skin must be prevented.
Sudden reaction and fire may result if product is mixed with an oxidizing agent.

May generate carbon monoxide gas. May generate toxic nitrogen oxide gases. May generate ammonia gas. Personnel in vicinity and downwind should be evacuated.

V. STABILITY/REACTIVITY/TOXICOLOGICAL PROPERTIES

CHEMICAL STABILITY: Stable

CONDITIONS TO AVOID (if unstable): Not applicable

INCOMPATIBILITY (Materials to Avoid): Mineral acids (i.e. sulfuric, phosphoric, etc.). Organic acids (i.e. acetic acid, citric acid etc.). Oxidizing Agents (i.e. perchlorates, nitrates etc.). Reactive metals (i.e. sodium, calcium, zinc etc.). Sodium or Calcium Hypochlorite. Product slowly corrodes copper, aluminum, zinc and galvanized surfaces. Reaction with peroxides may result in violent decomposition of peroxide possibly creating an explosion. Materials reactive WIth hydroxyl Compounds. A reaction accompanied by large heat release occurs when the product is mixed with acids. Heat generated may be sufficient to cause vigorous boiling creating a hazard due to splashing or splattering of hot material.

HAZARDOUS DECOMPOSITION PRODUCTS (from burning, heating, or reaction with other materials). Nitrogen oxide can react with water vapors to form corrosive nitric acid (TLV=2 ppm). Carbon Monoxide in a fire. Carbon Dioxide in a fire. Ammonia when heated. Nitrogen Oxides in a fire. Irritating and toxic fumes at elevated temperatures. Nitric acid in a fire. Aldehydes. The oxides of nitrogen gases (except nitrous oxide) emitted on decomposition are highly toxic.

HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID (if polymerization may occur):Not applicable

ACUTE ORAL TOXICITY (LD50, RAT): >1080.00 mg/kg (Estimate)

ACUTE DERMAL TOXICITY (LD50, RABBIT): >1090.00 mg/kg

ACUTE INHALATION TOXICITY (LC50, RAT): >10.0 mg/L / 1 hr (No Deaths) (Estimate)

V. STABILITY/REACTIVITY/TOXICOLOGICAL PROPERTIES (CONTINUED)

IRRITATION EFFECTS DATA: Corrosive to the eyes of a rabbit. Severe irritant to the skin of a rabbit.

CHRONIC/SUBCHRONIC DATA: Component has caused skin and respiratory sensitization in humans.

OTHER DATA: Toxicity data from similar products. Industrial chemicals such as this material with acute toxicity values shown above and whose vapors or mists are not likely to be encountered by humans when used in any reasonably foreseeable manner would not require a toxic label according to U.S. domestic and international transport regulations.

OTHER ACUTE EFFECTS: No Data.

IRRITATION EFFECTS DATA: Corrosive to the skin of a rabbit.

VI. ACCIDENTAL RELEASE MEASURES AND DISPOSAL CONSIDERATIONS

CONTAINMENT TECHNIQUES (REMOVAL OF IGNITION SOURCES, DIKING ETC): Stop the leak, if possible. Ventilate the space involved. Reduce vapor spreading with a water spray. Shut off or remove all sources. Construct a dike to prevent spreading (includes molten liquids until they freeze).

CLEAN-UP PROCEDURES: If recovery is not feasible, admix with dry soil, Sand or non-reactive absorbent and place in an appropriate chemical waste container. Transfer to containers by suction, preparatory for later disposal. Flush area with water spray. Clean-up personnel must be equipped with self-contained breathing apparatus and butyl rubber protective clothing. For large spills, recover spilled material with a vacuum truck.

OTHER EMERGENCY ADVICE: Open enclosed spaces to outside atmosphere.
Wear protective clothing, boots, gloves, and eye protection.

WASTE DISPOSAL: Comply with all Federal, state and Local Regulations.

VII. HEALTH HAZARDS

ROUTES OF EXPOSURE: Eye Contact, Skin Contact, Ingestion, Inhalation, Skin Absorption, Exposure Standards, No standards established for the product. Maintain air contaminant concentrations in the workplace at the lowest feasible levels.

HEALTH HAZARDS: Corrosive to eyes. Corrosive to respiratory system. Corrosive to skin. Severe eye irritant. Severe respiratory tract irritant. Severe skin irritant. May cause skin sensitization.

TARGET ORGANS: Eye Skin Respiratory system

SIGNS AND SYMPTOMS OF EXPOSURE (Acute effects)

Product vapor in low concentrations can cause lacrimation, conjunctivitis and corneal edema when absorbed into the tissue of the eye from the atmosphere. Corneal edema may give rise to a perception of ''blue haze''or ''fog'' around lights. The effect is transient and has no known residual effect. Burns of the eye may cause blindness. Contact with the skin may cause dryness (defatting), itching and/or rash. Contact of undiluted product with the eyes or skin quickly causes severe irritation and pain and may cause burns, necrosis and permanent injury. Inhalation of vapors may severely damage contacted tissue and produce scarring. Inhalation of aerosols and mists may severely damage contacted tissue and produce scarring. Risk of exposure to hazardous concentrations of vapor under normal working conditions in a well-ventilated space is minimal. However, conditions such as spraying, or sudden release of hot liquid, which generate an aerosol, mists or fog should be avoided. Product is absorbed through the skin and may cause nausea, headache and general discomfort.

VII. HEALTH HAZARDS (CONTINUED)

SIGNS AND SYMPTOMS OF EXPOSURE (Possible Longer Term Effects: Repeated and/or prolonged exposure may cause allergic reaction/sensitization. Repeated and/or prolonged exposures may result in: adverse respiratory effects (such as cough, tightness of chest or shortness of breath), adverse eye effects (such as conjunctivitis or corneal damage), adverse skin effects (such as defatting, rash, or irritation), adverse skin effects (such as rash, irritation or corrosion). Effects from inhalation of vapors may be delayed. Dryness of nasal passages may be experienced when material is inhaled over a long period of time. Repeated and/or prolonged exposure to low concentrations of vapor may cause: sore throat which are transient.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Asthma, Chronic Respiratory Disease (e.g. Bronchitis, Emphysema), Eye disease, Skin disorders and Allergies.

CARCINOGENS UNDER OSHA, ACGIH, NTP, IARC, OTHER: This product contains no carcinogens in concentrations of 0.1 percent or greater.

VIII. FIRST AID

EYE CONTACT

Hold eyelids apart and immediately flush eyes with plenty of water for at least 15 minutes. Seek medical advice.

SKIN CONTACT

Remove contaminated clothing and shoes. Remove product and immediately flush affected area with water for at least 15 minutes. Destroy contaminated leather apparel. Cover the affected area with a sterile dressing or clean sheeting and transport for medical care. Do not apply greases or ointments. Control shock, if present. Launder contaminated clothing prior to reuse.

INHALATION

Move patient to fresh air. If breathing has stopped or is labored give assisted respiration (e.g. mouth-to mouth). Supplemental oxygen may be indicated. Seek medical advice. Prevent aspiration of vomit. Turn victim's head to the side.

INGESTION

In the event of ingestion, administer 3-4 glasses of milk or water. Do not induce vomiting. Seek medical advice.

IX. PERSONAL PROTECTION/EXPOSURE CONTROLS

EYE PROTECTION: Full-face shield with goggles underneath.

HAND PROTECTION: Neoprene rubber gloves. Impermeable gloves. Cuffed Butyl rubber gloves. Nitrile rubber gloves. The breakthrough time of the selected glove(s) must be greater than the intended use period.

RESPIRATORY PROTECTION: Not required under normal conditions in a well-ventilated workplace. An organic vapor respirator national institute for occupational safety and health (NIOSH) approved for organic vapors is recommended under emergency conditions.

PROTECTIVE CLOTHING: Impervious clothing. Slicker suit. Rubber boots. Full rubber suit (rain gear), butyl or latex protective clothing.

ENGINEERING CONTROLS: No specific controls needed.

IX. PERSONAL PROTECTION/EXPOSURE CONTROLS (CONTINUED)

WORK AND HYGIENIC PRACTICES: Provide readily accessible eye wash stations and safety showers. Wash at the end of each work shift and before eating, smoking or using the toilet. Promptly remove clothing that becomes contaminated. Use appropriate hand and skin lotions to protect the skin. Discard contaminated leather articles.

X. REGULATORY INFORMATION

US FEDERAL REGULATIONS

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

STATE REGULATIONS

PROPOSITION 65 SUBSTANCES (component(s) known to the State of California to cause cancer and/or reproductive toxicity and subject to warning and discharge requirements under the "Safe Drinking Water and Toxic Enforcement Act of 1986")

None

NEW JERSEY RIGHT-TO-KNOW CHEMICAL LIST: The following is required composition information.

N-Aminoethyl Piperazine

CALIFORNIA HAZARDOUS SUBSTANCE LIST: The following is required composition information.

N-Aminoethyl Piperazine

PENNSYLVANIA TRADE RIGHT-TO-KNOW CHEMICAL LIST: The following is required composition information.

N-Aminoethyl Piperazine

MASSACHUSETTS TRADE RIGHT-TO-KNOW CHEMICAL LIST: The following is required composition information.

N-Aminoethyl Piperazine

INTERNATIONAL REGULATIONS- CANADA

DSL

Included on inventory.

WHMIS HAZARD CLASSIFICATION

Class D Division 1B, Class D Division 2B, Class E Corrosive.

WHMIS INGREDIENT DISCLOSURE LIST

Aminoethyl Piperazine, 1-(2-, (AEP)

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

XI. TRANSPORT INFORMATION

DOT NON-BULK SHIPPING NAME
Liquid, corrosive, n.o.s. (Aliphatic Amine), Class 8, UN1760, PG III, NAERG Guide No.: 153
DOT BULK SHIPPING NAME
Liquid, corrosive, n.o.s. (Aliphatic Amine), Class 8, UN1760, PG III, NAERG Guide No.: 153
IMO SHIPPING DATA
Refer to Bill of Lading.
ICAO/IATA SHIPPING DATA
Liquid, corrosive, n.o.s. (Aliphatic Amine), Class 8, UN1760, PG III, NAERG Guide No.: 153
D.O.T CLASS: Corrosive Liquid, N.O.S. UN/NA NUMBER 1760
HAZARDOUS INGREDIENT(S): ALIPHATIC AMINE
D.O.T. LABELS: CORROSIVE, N.O.S.

CAUTION: Misuse of empty containers can be hazardous. Empty containers can be hazardous if used to store toxic, flammable, or reactive materials. Cutting or welding of empty containers might cause fire, explosion or fumes from residues. Do not pressurize or expose to open flame or heat. Keep container closed and drum bungs in place.

The information on this data sheet represents our current data and best opinion as to the proper use and handling of this product under normal conditions. 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.