

MATERIAL SAFETY DATA SHEET

MANUFACTURER: ANDERSON MANUFACTURING CO., INC.
2885 Country Drive, Suite 190, St. Paul, MN 55117
EMERGENCY TELEPHONE 800-348-1316

SECTION I - PRODUCT IDENTIFICATION

PRODUCT NAME: LEAKMASTER C4121D STAPLE EPOXY GEL, PART A
SYNONYM: EPOXY RESIN
CHEMICAL FAMILY: MODIFIED EPOXY RESIN
DATE: JANUARY 1, 2005

SECTION II - HAZARDOUS INGREDIENTS AND OTHER COMPONENTS

OSHA - ACGIH

<u>INGREDIENT</u>	<u>TLV - TWA</u>		<u>STEL</u>		<u>CAS #</u>	<u>PERCENT</u>
	<u>ppm</u>	<u>mg/m3</u>	<u>ppm</u>	<u>mg/m3</u>		
Reaction Product of epichlorhydrin & bisphenol A	N/E	N/E	N/E	N/E	025085-99-8	100.00%

* N/E = Not Established

SECTION III - PHYSICAL DATA

Form: Viscous liquid

Boiling Point: >260°C (>500°F)

VP: 0.03 mbar at 77°C (>177°F)

VD: 1.16-1.17

Color: Clear

Evaporation Rate: <1 (butyl acetate = 1)

Chemical Stability: Stable

Solubility in Water: Negligible

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flash Point: >480°F / 249°C

Flammable Limits - LEL:.....N/D

Flammable Limits - UEL:.....N/D

Autoignition Temperature:.....N/D

Fire Hazard Classification:.....N/D

Extinguishing Media: Water fog or fine spray, carbon dioxide, dry chemical, foam. Do not use direct water steam. May spread fire alcohol resistant foams (ATC type) are preferred if available. General purpose synthetic foams (including AFFF) or protein foams may function, but much less effectively. Water fog, applied gently may be used as blanket for fire extinguishment. Material will not burn unless preheated. Personnel in vicinity and downwind should be evacuated.

Special fire fighting procedures: Do not enter confined space without bunker gear (helmet with face shield, bunker coats, gloves, and rubber boots), including a positive pressure **NIOSH** approved self-contained breathing apparatus.

Unusual fire and explosion hazards: Decomposition and combustion products may be toxic.

SECTION V – HEALTH HAZARD DATA

Primary Route(s) of Entry: Eye contact, respiratory system, skin contact. Inhalation – Not expected to be a relevant route of exposure, however, under conditions where exposure to vapors or mists are possible, could cause respiratory tract infection.

Oral LD50: (rat) > 2000 mg/kg

Dermal Toxicity: (LD50, rabbits) > 2000 mg/kg

Skin: May be mildly irritating to skin. Contact with hot material can cause thermal burns which may result in permanent damage. May cause skin sensitization.

Eyes: May be mildly irritating to the eyes. Contact with hot material can cause thermal burns resulting in permanent damage or blindness.

Sensitization: Sensitizer

Symptoms of Overexposure: (Possible longer term effects) Repeated and/or prolonged exposure may cause skin sensitization, repeated exposures to low molecular weight epoxy resins of this type are not anticipated to cause any significant adverse effects.

Medical Conditions Generally Aggravated by Exposure: Asthma, chronic respiratory disease (e.g. bronchitis, emphysema), eye disease, skin disorders and allergies.

Carcinogenicity: Many studies have been conducted to assess the potential carcinogenicity of diglycidyl ether of bisphenol A (DGEBA). Although some weak evidence of carcinogenicity has been reported in animals, when all the data is considered, the weight of the evidence does not show that DGEBA is carcinogenic. Indeed, the most recent review of the available data by the International Agency for Research on Cancer (IARC) has concluded that DGEBA is not classified as a carcinogen. DGEBA did not cause birth defects or other adverse effects on the fetus when pregnant rabbits were exposed by skin contact, the most likely route of exposure, or when pregnant rats or rabbits were exposed orally. In animal studies, this product has not been shown to interfere with reproduction.

Carcinogens under OSHA, ACGIH, NTP, IARC, OTHER: N/A

Emergency and first aid procedures:

Eyes: Flush with water. Rest eyes for 30 minutes. If any ill effects persist, seek medical attention.

Skin: In case of contact with hot product, immediately flood the affected area with cold water. Wipe excess material from exposed area. Flush exposed skin with water and follow by washing with soap if available. Carefully remove clothing; if clothing is stuck to a burn area, do not pull it off, but cut around it. Cover burn area with clean material. Transport to nearest medical facility for additional treatment.

Inhalation: Remove to fresh air and give oxygen if breathing is difficult. Get medical attention

Ingestion: Single dose oral toxicity is considered to be extremely low. No hazards anticipated from swallowing small amounts of incidental to normal handling operations.

SECTION VI – REACTIVITY DATA

Stability: Stable

Conditions to Avoid (if unstable): Avoid high temperatures.

Incompatibility Materials to Avoid: Can react vigorously with strong oxidizing agents, strong Lewis or mineral acid, and strong mineral and organic bases. Avoid contact with water or liquids. Do not allow molten product to contact water or other liquids. This can cause violent eruptions, splatter hot material or ignite flammable material. Reaction with some curing agents may produce considerable heat and possible violent decomposition.

Hazardous Decomposition Products: Depend on temperature, air supply and the presence of other materials. Uncontrolled exothermic reaction to epoxy resins release phenolics, carbon monoxide, and water

Hazardous Polymerization: Will not occur by itself. Masses of more than one pound (0.5 kg) of product plus an aliphatic amine will cause irreversible polymerization with considerable heat build-up.

PART A (CONT'D)

SECTION VII - SPILL OR LEAK PROCEDURES

Containment Techniques (Removal of ignition sources, diking, etc): Dike and contain. Contain runoff and dispose of property. Remove contaminated soil to remove contaminated trace residues.

Steps to be taken in case material is released or spilled: Absorb with material such as sand or polypropylene or polyethylene fiber products. Collect in suitable and properly labeled containers. Remove residual using hot soapy water. Residual can be removed with solvent. Solvents are not recommended for clean-up unless recommended exposure guidelines and safe handling practices for the specific solvent are followed. Consult appropriate solvent MSDS for handling instructions.

Waste Disposal Method: If this product becomes a waste, it would be a hazardous waste by RCRA criteria (40 CFR261) Place in an appropriate disposal facility in compliance with local and federal regulations.

SECTION VIII - SPECIAL PROTECTION INFORMATION

Respiratory Protection: No respiratory protection is usually required under normal conditions of use.

Eye Protection: Safety glasses. Avoid contact with eyes.

Hand Protection: Butyl; EVAL-Laminate.

Protective Equipment: Wear appropriate respirator and protective clothing.

SECTION IX - SPECIAL PRECAUTIONS

Precautions to be taken in handling and storage: Causes irritation. May cause allergic skin reaction. Avoid contact with eyes, skin or clothing. Store in cool, dry area in closed cartridges.

Other precautions: Avoid breathing vapors, use with good ventilation. Wash hands thoroughly with soap and water after every use.

Health	Flammability	Reactivity	Personal Protection
2	1	0	B

SECTION X – REGULATORY INFORMATION

US FEDERAL REGULATIONS

Resource Conservation and Recovery Act (RCRA): Not a hazardous waste under RCRA (40 CFR 261).

SARA Title III: Section 304 - CERCLA: Not listed.

SARA Title III: Section 313 Toxic Chemical List (TCL): This product does not contain a toxic chemical for routine annual 'Toxic Chemical Release Reporting' under Sec. 313 (40 CFR 372).

TSCA Section 8(b) - Inventory Status: Chemical components listed on TSCA Inventory.

TSCA Section 12(b) - *Export Notification: This product does not contain any chemical(s) that are subject to a Section 12(b) export notification.*

INTERNATIONAL REGULATIONS

Canadian Inventory Status: All components included on the Domestic Substances List (DSL).

PART A (CONT'D)

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")
Epichlorohydrin (< 2 ppm) Carcinogenic.

NEW JERSEY TRADE SECRET REGISTRY NUMBER(S)

Phenol, 4, 4'-(-1methylethylidene)bis-, polymer with (chloromethyl)oxirane.

PENNSYLVANIA TRADE SECRET REGISTRY NUMBER(S)

Phenol, 4, 4'-(-1methylethylidene)bis-, polymer with (chloromethyl)oxirane

SECTION XI – TRANSPORT INFORMATION

DOT NON-BULK SHIPPING NAME

Not regulated.

DOT BULK SHIPPING NAME

Not regulated.

IMO SHIPPING DATA

Not regulated.

ICAO/IATA SHIPPING DATA

Not regulated.

D.O.T CLASS: Not regulated.

HAZARDOUS INGREDIENT(S): Not regulated.

D.O.T. LABELS: Not regulated

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.

All statements, technical information and recommendations contained herein are based upon available scientific test or data which we believe to be reliable since we cannot anticipate all conditions under which this information and our products or the products of other manufacturers in combination with our products may be used. LeakMaster makes no warranties, express or implied, and assumes no responsibility in connection with any use of this information.

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SECTION I - PRODUCT IDENTIFICATION

PRODUCT NAME: LEAKMASTER C4121D STAPLE EPOXY GEL, Comp B (Hardener)
SYNONYM: EPOXY HARDENER
CHEMICAL FAMILY: EPOXY GEL
DATE: JANUARY 1, 1995

SECTION II - HAZARDOUS INGREDIENTS AND OTHER COMPONENTS

<u>INGREDIENT</u>	<u>C.A.S NO.</u>	<u>TLV - TWA</u>		<u>STEL</u>		<u>PERCENT</u>
		<u>ppm</u>	<u>mg/m3</u>	<u>ppm</u>	<u>mg/m3</u>	
Diethylenetriamine (DETA)	111-40-0	1	4.0	1	N/E (Skin)	< 15.00%
4,4'-isopropylidenediphenol- Epichlorohdrin polymer	80-05-7	N/E	N/E	N/E	N/E	< 10.00%
Phenol 4-Nonyl-, Branched	84852-15-3	N/E	N/E	N/E	N/E	< 50.00%
N-Aminoethylpiperazine	140-31-8	N/E	N/E	N/E	N/E	> 20.00%

SECTION III - PHYSICAL DATA

Appearance: Gel Like
Boiling Point: >392 °F (200°C)
VP: <2.0 MMHG
Percent Volatile: N/A
Evaporation Rate: <1 (BUDAC = 1)
Solubility in Water: Completely (100%)
PH: Alkaline

VD: N/A
Odor: Irritating
Color: Yellow
Voc Less H20 & Exempt Solvents: N/A

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Melting Point: N/A
Flash Point: 230°F (110C)
Flammable Limits: LEL.....N/D UEL.....N/D
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.

PART B (CONT'D)

SECTION V – HEALTH HAZARD DATA

Primary Route(s) of Entry: 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.

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.

Emergency and first aid procedures:

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

Skin: 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.

SECTION VI – REACTIVITY DATA

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)

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.

SECTION VII - SPILL OR LEAK PROCEDURES

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.

PART B (CONT'D)

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.

SECTION VIII - SPECIAL PROTECTION INFORMATION

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.

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.

SECTION IX - SPECIAL PRECAUTIONS

Precautions to be taken in handling and storage: Store away from head and open flame.

Other precautions: Avoid breathing vapors of heated material. Wash hands with soap and water after every use.

Adequate ventilation: Keep containers tightly closed when not in use.

Health	Flammability	Reactivity	Personal Protection
3	1	0	B

SECTION 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

PART B (CONT'D)

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

SECTION 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.

PART B (CONT'D)

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.

All statements, technical information and recommendations contained herein are based upon available scientific test or data which we believe to be reliable since we cannot anticipate all conditions under which this information and our products or the products of other manufacturers in combination with our products may be used. LeakMaster makes no warranties, express or implied, and assumes no responsibility in connection with any use of this information.