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**Material Safety Data Sheet**

Date 02/01/2007

MANUFACTURER:  
Glenmarc Industries Inc.  
2001 S. Blue Island Ave.  
Chicago IL 60608

Emergency Phone:  
800-255-3924  
Chemtel  
Non-emergency Phone:  
800-323-5350

PRODUCT: Part B epoxy curing agent

PRODUCT NAME:

**GEH4011 Hardener**

Chemical Family: Epoxy hardener formulated

HAZARD RATINGS:

Fire: 1

Health: 2

Reactivity: 0

Flash Point: >215F Method: COC

CHEMICAL NAME: Epoxy Hardener-Formulated Proprietary Formula

Hazardous Ingredients

	CAS#	PEL/TLV-TWA	STEL-TWA	%(optional)
Amino Ethyl Piperazine	00140-31-8	N/E	N/E	--
Nonyl Phenol	84852-15-3	N/E	N/E	--

N/E -not established T/S- trade secret S-skin

SECTION 6 Physical Data

Boiling Point: 431.6°F

Vapor Pressure: <1mm Hg @ 29C

Specific Gravity: 1.34 (H2O=1)

Solubility in Water: Yes

Vapor Density: >1 @ 77F (air=1)

Percent Volatile: 0%

Evaporation rate: <0.01

Percent solid by weight: 100%

Appearance and Odor: Transparent, amine odor, liquid

11.21 lbs/gal

Fire and Explosion Hazards

Flammable limits/%Volume in Air lower-n/a Upper- n/a

Extinguishing Media: Water, foam, CO2, dry chemicals, fog

Special Fire Fighting Procedures and Precautions: Do not enter confined fire space without proper protective equipment including a NIOSH approved self-contained breathing apparatus. Cool fire exposed container with water.

Unusual Fire and Explosion Hazards:

Container areas exposed to intense heat/flame should be cooled with Water to prevent build-up and/or weakening of container structure.

Reactivity\_\_\_\_\_

Stability: Stable

Hazardous Polymerization: will not occur

Conditions and Materials to avoid:

Avoid mixing resin and hardener in uncontrollable quantities

Avoid high temperatures, open flames and unscheduled contact with curing agents.

Hazardous Decomposition Products:

Carbon dioxide, carbon monoxide, by products may include oxides of nitrogen when burned.

Health Hazard Data\_\_\_\_\_

Chemical listed as carcinogen or potential carcinogen in NTP, IARC or OSHA 1910(z): This material is neither carcinogenic or potentially carcinogenic

Occupational Exposure limits\_\_\_\_\_

OSHA limits have not been established for this product

ACGIH limits have not been established for this product

Effects of Overexposure\_\_\_\_\_

Skin contact: skin contact may result in irritation or chemical burn

Eye contact: Product can cause severe eye irritation, swelling and/or chemical burn. Contact lenses should not be worn when working with this material.

Inhalation: Vapor is irritating to the upper respiratory membrane if swallowed.

Ingestion: Liquid causes damage to mucous membrane if swallowed.

Primary routes of entry: skin contact

Emergency and First Aide Procedures\_\_\_\_\_

Eye Contact: Flush with water for 15 minutes while holding eyelids open. GET MEDICAL ATTENTION IMMEDIATELY.

Skin Contact: Wash with soap and water. Remove contaminated clothing and shoes. Do not Reuse until cleaned. If persistent irritation occurs. Contact Physician.

Inhalation: Remove to fresh air

Ingestion: Do not induce vomiting. Give large amounts of water. Call Physician. Treatment based on judgment of physician in response to actions of patient.

Employee Protection\_\_\_\_\_

Respiratory protection:

Wear a NIOSH-approved respirator as required to prevent over-exposure. In accord with 29 CFR 1910.134, use either an atmosphere supplying respirator or an air-purifying respirator for organic vapors.

Ventilation: Use with adequate ventilation. Local exhaust is recommended. Mechanical exhaust can be used as a back up system.

Protective clothing:

Wear impervious gloves and protective clothing as required to prevent skin contact. Wear NIOSH approved chemical goggles or goggles with side shields to prevent eye contact.

Additional Preventive Measures:

Ventilation is required for mixing, application, and curing operations to control vapor concentrations, particularly for processes involving heat. Eye wash fountains should be available for emergency use.

Environmental Protection\_\_\_\_\_

Spill or leak procedures:

Use cautious judgment when cleaning up large spills.

Large spills:

Wear respirator and protective clothing as appropriate. Shut off sources of leak if safe to do so. Dike and contain. Flush area with water to remove trace residue. Dispose of flush legally.

Small spills: Take up with an absorbent material and dispose of properly.

Waste disposal: Place in appropriate disposal facility in compliance with local regulations.

Special Precautions\_\_\_\_\_

Keep container tightly closed. Store in cool, dry place well ventilated. Avoid open sparks or extreme heat. Store separately from curing agents. Protect container from physical damage.

Wash with soap and water before eating, drinking, smoking or using toilet facilities. Launder contaminated clothing before reuse.

Transportation Requirements\_\_\_\_\_

Not regulated by D.O.T.

SECTION 13 Supplementary Health /Regulatory Information\_\_\_\_\_

The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, vendor assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material even if reasonable safety procedures are followed. Furthermore, vendee assumes the risk to his use of the material.