

METMOUNT- 3 HARDENER

Safety Data Sheet

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Name : Metmount-3 Hardener :
CAS No None - mix
Product code :M337H-___

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Epoxy resin: hardener

1.3. Details of the supplier of the safety data sheet

Metlab Corporation
4011 Hyde Park Blvd.
Niagara Falls, NY 14305
EMERGENCY: 800-255-3924
Chem-Tel INFORMATION:
email: sales@metlabcorp.com

1.4. Emergency telephone number

Emergency number : 800-255-3924 (Chem-Tel)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Acute toxicity (oral) Category 4	H302
Acute toxicity (inhalation:vapor) Category 2	H330
Skin corrosion/irritation Category 1B	H314
Skin sensitization Category 1	H317
Specific target organ toxicity (single exposure) Category 3	H335
Hazardous to the aquatic environment - Acute Hazard Category 3	H402

Full text of H statements : see section 16

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US) :



GHS05

GHS06

GHS07

Signal word (GHS-US) :

Danger

Contains :

Diethylenetriamine

Hazard statements (GHS-US) :

H302 - Harmful if swallowed
H314 - Causes severe skin burns and eye damage
H317 - May cause an allergic skin reaction
H330 - Fatal if inhaled
H335 - May cause respiratory irritation
H402 - Harmful to aquatic life

Precautionary statements (GHS-US) :

P260 - Do not breathe mist/vapors/spray
P264 - Wash all contact areas thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P271 - Use only outdoors or in a well-ventilated area
P272 - Contaminated work clothing must not be allowed out of the workplace
P273 - Avoid release to the environment
P280 - Wear protective gloves/protective clothing/eye protection
P284 - In case of inadequate ventilation wear respiratory protection.
P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse

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skin with water/shower
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor/physician
P320 - Specific treatment is urgent, show label
P321 - Specific treatment: See SDS Section 4.
P330 - Rinse mouth
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention
P363 - Wash contaminated clothing before reuse
P403+P233 - Store in a well-ventilated place. Keep container tightly closed
P405 - Store locked up
P501 - Dispose of contents/container to special waste facility in accordance with regional/national regulations

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%	GHS-US classification
Diethylenetriamine	(CAS No) 111-40-0	> 10	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Acute Tox. 2 (Inhalation:vapor), H330 Skin Corr. 1B, H314 Skin Sens. 1, H317 STOT SE 3, H335

Full text of H-phrases: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures general : Call a physician immediately. Never give anything by mouth to an unconscious person. Vomiting: prevent asphyxia/aspiration pneumonia.
- First-aid measures after inhalation : Call a physician immediately. Call a doctor. If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention.
- First-aid measures after skin contact : Rinse skin with plenty of water or shower. Take off contaminated clothing and wash it before reuse. Dispose of contaminated leather articles. Get medical advice/attention. Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Wash clothing frequently. Keep work clothing separately.
- First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.
- First-aid measures after ingestion : Rinse mouth. Do not induce vomiting. Call a physician immediately.

4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries : Irritation of the respiratory tract. Inflammation/damage of the eye tissue. Caustic burns/corrosion of the skin. Symptoms may be delayed.
- Symptoms/injuries after inhalation : Coughing. Irritation of the respiratory tract. Irritation of the nasal mucous membranes. Dry/sore throat. FOLLOWING SYMPTOMS MAY APPEAR LATER: Respiratory difficulties. Possible inflammation of the respiratory tract. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Symptoms/injuries after skin contact : Allergic skin rash. Caustic burns/corrosion of the skin. Destruction of tissue. ON CONTINUOUS EXPOSURE/CONTACT: Repeated exposure to this material can result in absorption through skin causing significant health hazard.
- Symptoms/injuries after eye contact : Causes serious eye damage. Corrosion of the eye tissue. Lacrimation. Product vapor can cause lacrimation, conjunctivitis, and corneal edema when absorbed into the tissue of the eye. Corneal edema may give rise to a perception of "blue haze" or "fog" around lights. The effect is transient and has no known residual effects.
- Symptoms/injuries after ingestion : Nausea. Abdominal pain. Burns to the gastric/intestinal mucosa. Cramps/uncontrolled muscular contractions. May cause gastrointestinal irritation, nausea, vomiting and diarrhea.
- Chronic symptoms : Animal studies suggest chronic overexposure effects may target the liver.

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4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Irritating and/or toxic gases or fumes likely if involved in fire or exposed to extreme heat.

Reactivity : The product is non-reactive under normal conditions of use, storage and transport.

5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers.

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

Other information : Burning produces stinking and toxic fumes.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Only qualified personnel equipped with suitable protective equipment may intervene.

6.1.1. For non-emergency personnel

Protective equipment : Boots, gloves, goggles.

Emergency procedures : Do not breathe mist/vapors/spray. Only qualified personnel equipped with suitable protective equipment may intervene. Mark the danger area. Do not get in eyes, on skin, or on clothing. Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Impermeable boots and protective equipment. complete protective suit against chemicals.

Emergency procedures : Stop release. Prevent product from entering drains. Dike and contain spill. Absorb remaining liquid with sand or inert absorbent and remove to safe place. Decontaminate the spill surface area using a neutralization solution (see list); scrubbing the surface with a broom or brush helps the decontamination solution to penetrate into porous surfaces. Wait at least 15 minutes after first application of the neutralization solution. Cover the area with absorbent material and shovel this into an approved metal container.

6.2. Environmental precautions

Avoid release to the environment. Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up

For containment : Dam up the liquid spill.

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Clean contaminated surfaces with a soap solution.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : When heated, material emits irritating fumes.

Precautions for safe handling : Provide good ventilation in process area to prevent formation of vapor. Use only outdoors or in a well-ventilated area. Do not breathe mist/vapors/spray. Avoid contact with skin and eyes. Wear personal protective equipment. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

Hygiene measures : Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep container closed when not in use. Store indoors in closed containers with closure in upper position. Store locked up. Store in a well-ventilated place. Keep container tightly closed. Do not expose to temperatures exceeding 50 °C/ 122 °F. Store in a dry place.

Incompatible materials : concentrated strong acids. Mineral acids.

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Maximum storage period	: 12 months
Storage temperature	: <= 10 °C
Storage area	: Keep locked up. Store at ambient temperature. Keep container closed when not in use.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Diethylenetriamine (111-40-0)		
ACGIH	ACGIH TWA (ppm)	1 ppm (Diethylene triamine; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
Not applicable		

8.2. Exposure controls

Appropriate engineering controls	: Ensure good ventilation of the work station.
Personal protective equipment	: Gloves. Protective goggles. Protective clothing. Face shield.



Materials for protective clothing	: butyl rubber. chloroprene rubber. nitrile rubber.
Hand protection	: Protective gloves.
Eye protection	: Safety glasses.
Skin and body protection	: Wear suitable protective clothing.
Respiratory protection	: Wear respiratory protection.
Thermal hazard protection	: Use insulated gloves when handling this material hot.
Environmental exposure controls	: Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Color	: Mixture contains one or more component(s) which have the following colour(s): Colourless to light yellow
Odor	: Odourless.
Odor threshold	: No data available
pH	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: > 150 °C
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Vapor pressure	: < 1 mm Hg @ 20 deg C
Relative density	: No data available
Relative vapor density at 20 °C	: No data available
Specific gravity / density	: > 1 g/l
Solubility	: moderately soluble in water. Water: Solubility in water of component(s) of the mixture : • Diethylenetriamine: Complete
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available

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Viscosity	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

N-Nitrosamines, many of which are known to be potent carcinogens, may be formed when the product comes in contact with nitrous acid, nitrites or atmospheres with high nitrous oxide concentrations. . Reaction with amines in large amounts or under uncontrolled conditions may produce extreme heat with noxious smoke and fumes.

10.4. Conditions to avoid

Overheating.

10.5. Incompatible materials

Strong acids.

10.6. Hazardous decomposition products

Corrosive vapors. Hazardous decomposition products may be released during prolonged heating like smoke, carbon monoxide and dioxide, nitrogen oxides (NOx).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Oral: Harmful if swallowed. Inhalation:vapour: Fatal if inhaled.

50008 Amine Activator (None - mix)	
ATE US (oral)	1666.667 mg/kg body weight
ATE US (vapors)	1.667 mg/l/4h
Diethylenetriamine (111-40-0)	
LD50 oral rat	1620 mg/kg
LD50 dermal rabbit	1090 mg/kg
ATE US (oral)	500.000 mg/kg body weight
ATE US (dermal)	1100.000 mg/kg body weight
ATE US (vapors)	0.500 mg/l/4h

Skin corrosion/irritation : Causes severe skin burns and eye damage.

Serious eye damage/irritation : Not classified

Respiratory or skin sensitization : May cause an allergic skin reaction.

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : May cause respiratory irritation.

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

Symptoms/injuries after inhalation : Coughing. Irritation of the respiratory tract. Irritation of the nasal mucous membranes. Dry/sore throat. FOLLOWING SYMPTOMS MAY APPEAR LATER: Respiratory difficulties. Possible inflammation of the respiratory tract. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Symptoms/injuries after skin contact : Allergic skin rash. Caustic burns/corrosion of the skin. Destruction of tissue. ON CONTINUOUS EXPOSURE/CONTACT: Repeated exposure to this material can result in absorption through skin causing significant health hazard.

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Symptoms/injuries after eye contact	: Causes serious eye damage. Corrosion of the eye tissue. Lacrimation. Product vapor can cause lacrimation, conjunctivitis, and corneal edema when absorbed into the tissue of the eye. Corneal edema may give rise to a perception of "blue haze" or "fog" around lights. The effect is transient and has no known residual effects.
Symptoms/injuries after ingestion	: Nausea. Abdominal pain. Burns to the gastric/intestinal mucosa. Cramps/uncontrolled muscular contractions. May cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Chronic symptoms	: Animal studies suggest chronic overexposure effects may target the liver.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Harmful to aquatic life.

Diethylenetriamine (111-40-0)	
LC50 fish 1	430 mg/l (LC50; EU Method C.1; 96 h; Poecilia reticulata; Semi-static system; Fresh water; Experimental value)
EC50 Daphnia 1	16 mg/l Daphnia Magna, 48 hr Static Test DIN38412
EC50 other aquatic organisms 1	≥ 5000 mg/l Bacteria, 16Hr static test
ErC50 (algae)	1164 mg/l Green algae, 72 HR, OECD 201
LOEC (acute)	≈ mg/l
NOEC (chronic)	≥ 10 mg/l Fish, 28 day, semi-static
Threshold limit algae 1	1164 mg/l (ErC50; OECD 201: Alga, Growth Inhibition Test; 72 h; Selenastrum capricornutum; Static system; Fresh water; Experimental value)
Threshold limit algae 2	10 mg/l (NOEC; OECD 201: Alga, Growth Inhibition Test; 72 h; Selenastrum capricornutum; Static system; Fresh water; Experimental value)

12.2. Persistence and degradability

Diethylenetriamine (111-40-0)	
Persistence and degradability	Readily biodegradable in water. Readily biodegradable in the soil. Adsorbs into the soil. Low potential for mobility in soil. Photooxidation in the air.

12.3. Bioaccumulative potential

Diethylenetriamine (111-40-0)	
BCF fish 1	≤ 0.3 Fish, measured
Log Pow	-1.58 (Calculated; 20 °C; -5.58; Calculated; 20 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil

Diethylenetriamine (111-40-0)	
Log Koc	≥ 5000 Estimated
Ecology - soil	Soil contaminant.

12.5. Other adverse effects

Effect on global warming : No known ecological damage caused by this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Waste disposal recommendations : Collect all waste in suitable and labeled containers and dispose according to local legislation.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT
Transport document description : UN2079 Diethylenetriamine (Solution), 8, II
UN-No.(DOT) : UN2079
Proper Shipping Name (DOT) : Diethylenetriamine
Solution
Class (DOT) : 8 - Class 8 - Corrosive material 49 CFR 173.136

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Hazard labels (DOT) : 8 - Corrosive



Packing group (DOT) : II - Medium Danger
DOT Packaging Non Bulk (49 CFR 173.xxx) : 202
DOT Packaging Bulk (49 CFR 173.xxx) : 242
DOT Symbols : G - Identifies PSN requiring a technical name
DOT Special Provisions (49 CFR 172.102) : B2 - MC 300, MC 301, MC 302, MC 303, MC 305, and MC 306 and DOT 406 cargo tanks are not authorized
IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized
T7 - 4 178.274(d)(2) Normal..... 178.275(d)(3)
TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where: tr is the maximum mean bulk temperature during transport, tf is the temperature in degrees celsius of the liquid during filling, and a is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling (tf) and the maximum mean bulk temperature during transportation (tr) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: (image) Where: d15 and d50 are the densities (in units of mass per unit volume) of the liquid at 15 C (59 F) and 50 C (122 F), respectively
DOT Packaging Exceptions (49 CFR 173.xxx) : 154
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 1 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 30 L
DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel
DOT Vessel Stowage Other : 40 - Stow "clear of living quarters", 52 - Stow "separated from" acids
Emergency Response Guide (ERG) Number : 154
Other information : No supplementary information available.

Transport by sea

UN-No. (IMDG) : 2079
Proper Shipping Name (IMDG) : DIETHYLENETRIAMINE SOLUTION
Class (IMDG) : 8 - Corrosive substances
Packing group (IMDG) : II - substances presenting medium danger

Air transport

UN-No. (IATA) : 2079
Proper Shipping Name (IATA) : Diethylenetriamine Solution
Class (IATA) : 8 - Corrosives
Packing group (IATA) : II - Medium Danger

SECTION 15: Regulatory information

15.1. US Federal regulations

(None - mix)

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Diethylenetriamine (111-40-0)

SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard Immediate (acute) health hazard
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15.2. International regulations

CANADA

No additional information available

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EU-Regulations

No additional information available

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

Diethylenetriamine (111-40-0)

U.S. - New Jersey - Right to Know Hazardous Substance List

SECTION 16: Other information

Abbreviations and acronyms : N.A. - Not Applicable
N.E. - Not Established
N.D. - Not Determined
ACGIH = American Conference of Governmental Industrial Hygienists
OSHA = US Occupational Health and Safety Administration
TLV-TWA = Threshold Limit Value-Time Weighted Average (8 hrs)
STEL = Short-Term Exposure Limit (15 min)
C = Ceiling Value
PEL = Permissible Exposure Limit
OEL = Occupational Exposure Limit
IDLH = Immediately Dangerous to Life and Health
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
PNEC = Predicted No Effect Concentration
LOAEL = Lowest Observed Adverse Effect Level
NOAEL = No Observed Adverse Effect Level
NOAEC = No Observed Adverse Effect Concentration.

Other information : **DISCLAIMER:** To the best of our knowledge, the information contained in this MSDS is accurate or is obtained from sources believed to be accurate. However, no liability, expressed or implied, is assumed for the accuracy or completeness of the information contained herein. Buyer assumes liability in its use of the material.

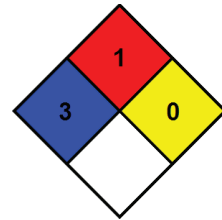
Full text of H-phrases:

H302	Harmful if swallowed
H312	Harmful in contact with skin
H314	Causes severe skin burns and eye damage
H317	May cause an allergic skin reaction
H330	Fatal if inhaled
H335	May cause respiratory irritation
H402	Harmful to aquatic life

NFPA health hazard : 3 - Short exposure could cause serious temporary or residual injury even though prompt medical attention was given.

NFPA fire hazard : 1 - Must be preheated before ignition can occur.

NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating

Health : 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given

* - Chronic (long-term) health effects may result from repeated overexposure

Flammability : 1 Slight Hazard - Materials that must be preheated before ignition will occur. Includes liquids, solids and semi solids having a flash point above 200 F. (Class IIIB)

Physical : 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

Personal Protection : D

D - Face shield and eye protection, Gloves, Synthetic apron

SDS US (GHS HazCom 2012)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product