



MATERIAL SAFETY DATA SHEET

Prepared in accordance with ISO 11014-1/ ANSI standard
Z400.1-2004

Revision Date: 8/25/2011
MSDS No.: ND4129

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: 917 Epoxy Laminating Adhesive – Part B - Hardener

Synonyms: None

Use of the Substance/Preparation: Adhesive

Supplier:

ND Industries, Inc.
1893 Barrett Road
Troy, Michigan 48084
Tel: (248) 288-0000
Fax: (248) 288-0022

Emergency Telephone Number: 24 hr. EMERGENCY CHEMTREC
1-800-424-9300

2. HAZARDS IDENTIFICATION

**EMERGENCY OVERVIEW-
DANGER:**

Causes skin burns. Causes eye irritation. May cause sensitization by skin contact. May be harmful if swallowed. Highly toxic to fish and/or other aquatic organisms.

Principle Routes of Exposure:

Skin and eyes.

POTENTIAL HEALTH EFFECTS:

Eye Contact:

May cause severe eye irritation. May cause severe corneal injury. Effects may be slow to heal.

Skin Contact:

Brief contact may cause skin burns. Symptoms may include pain, severe local redness and tissue damage. May cause sensitization by skin contact.

Inhalation:

Exposure to vapor in unlikely due to low volatility at room temperature. Vapor from heated material may cause respiratory irritation and other effects.

Ingestion:

Low toxicity if swallowed. May result in irritation or burns of the mouth, throat, and gastrointestinal tract. Not likely to be an aspiration hazard.

Carcinogenic Effects:

No data available.

Target Organ Effects:

No data available.

**Medical Conditions Aggravated by
Exposure:**

Excessive exposure may aggravate preexisting asthma and other respiratory disorders.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS Number	EINECS Number	Weight %	EU Classification
Amine Curing Agent	Mixture	Mixture	100	C: N: R21/22; R34; R43; R50/53

4. FIRST AID MEASURES

Skin Contact: Immediately flush affected area with plenty of water for at least 15 minutes. Remove contaminated clothing. Seek medical attention if symptoms occur, or irritation persists. Launder clothing before reuse.

Eye Contact: Immediately flush eyes with water. If contact lenses are present, after rinsing for 5 minutes, remove contacts and continue flushing eyes for at least 15 minutes. Seek immediate medical attention; preferably from an ophthalmologist.

Inhalation: Move to fresh air. If you feel unwell seek medical attention.

Ingestion: Not expected to be a route of entry under normal industrial use conditions. If swallowed seek medical attention.

Notes to Physician: Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIRE AND IGNITION INFORMATION

Flash Point 244°F.

Explosion Limits in Air – Upper (%): Not applicable.

Explosion Limits in Air – Lower (%): Not applicable.

OSHA Flammability Classification: Combustible.

Auto-ignition Temperature: Not determined.

Extinguishing Media: Carbon dioxide, dry chemical, water spray or fog, alcohol resistant foam. Do not use direct water stream. May spread fire.

Special Protective Equipment for Firefighters: Fire fighters should wear full protective gear including self contained breathing apparatus operated in positive pressure mode.

Specific Hazards: Container may rupture from gas generation in a fire situation.

Hazardous Decomposition and/or Combustion Products: Oxides of nitrogen and carbon. Depending on temperature, air supply, and the presence of other materials, decomposition products may include, and are not limited to: aromatic compounds, ammonia, ethylenediamine, volatile amines, hydrocarbons, phenolics.

Risk of Dust Explosion: Not applicable as supplied.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Only trained personnel should clean a spill. Ventilate spill area. Wear appropriate personal protective equipment.

Methods for Cleaning Up: Absorb using inert material such as clay, dirt, Milsorb®, or sand. Do not absorb using cellulose or sawdust. Collect into appropriate container for disposal.

Environmental Precautions: Do not allow spilled product to enter soil, sewers, drains, rivers, or other water courses.

7. HANDLING AND STORAGE

Handling: Wear adequate protective equipment. Avoid contact with skin and eyes. Use adequate ventilation. Do not swallow. Eyewash and shower stations should be available for use in the immediate work area.

Storage: Keep container tightly closed when not in use. Store in a cool, dry location. Avoid moisture. Store in original container.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMITS

Exposure limits for those components with limits are stated below.

None

ENGINEERING CONTROLS

Use local exhaust ventilation.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Respiratory protection should be worn when there is a potential to exceed the exposure limits requirements or guidelines.

Hand Protection: Wear chemical resistant gloves, such as, polyethylene, ethyl vinyl alcohol laminate.

Eye Protection: Use chemical goggles.

Skin and Body Protection: Wear chemical resistant boots, apron, full body suit and/or face shield.

Other: Wash hands and face after using and before eating, drinking, smoking or using the lavatory. Do not consume or store food or tobacco in the work area.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Brown to black liquid.

Odor: Amine.

pH: 13 (literature)

Vapor Pressure: <0.01 mmHg @20°C

Boiling Point/Range: >212°F (decomposes)

Melting Point/Range: Not applicable.

Water Solubility: Soluble.

Specific Gravity: 1.014 (literature)

% VOC (by Volume): 20 g/l

Evaporation Rate: Not established.

Viscosity: 200-300 mPa.s @25°C ASTM D445 (dynamic)

Partition Coefficient (n-octanol/water): -3.67 (estimated)

10. STABILITY AND REACTIVITY

Stability: Stable.

Hazardous Polymerization: Will not occur.

Mechanical Sensitivity (shock): Not applicable.

Conditions to Avoid: Exposure to elevated temperatures can cause product to decompose. Generation of gas during decomposition can cause pressure in closed systems. Reaction with carbon dioxide may form an amine carbamate. Smoke may be generated depending on vapor pressure of mixture. Product absorbs carbon dioxide from the air. Avoid contact with oxidizing materials, acids, acrylates, alcohols, aldehydes, halogenated

hydrocarbons, ketones, and nitriles. Avoid contact with brass, bronze, copper, and copper alloys.
Static Discharge Effects: Avoid static discharge. Use bonding and grounding.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Oral LD50: 1716 mg/kg (rat)
Inhalation LC50: Not determined.
Dermal LC50: >2000 mg/kg (rabbit)
Eye Irritation: Irritating.
Skin Irritation: Irritating.

CHRONIC TOXICITY

Carcinogenic Effects: None.
Mutagenic Effects: Animal-negative.
Reproductive Toxicity: No data available.
Sensitizing Effects: May cause allergic skin reaction
Synergistic Materials: No data available.

12. ECOLOGICAL INFORMATION

Aquatic Toxicity: Highly toxic to aquatic organisms on an acute basis (LC50/EC50 between 0.1 and 1 mg/L in the most sensitive species tested).

ENVIRONMENTAL FATE

Mobility: No data available.
Bioaccumulation: Low (BCF<100 or log Pow <3).
Persistence / Degradability: May not readily biodegrade.
Distribution to Environmental Compartments: No data available.

13. DISPOSAL CONSIDERATIONS

Disclaimer: Information in this section pertains to the product as shipped in its intended composition as described in Section 2 of this MSDS. Contamination or processing may change waste characteristics and requirements. Regulations may also apply to empty containers, liners or rinsate. State/provincial and local regulations may be different from federal regulations.

RCRA Classification (40 CFR 261): Dispose of in accordance with all local, state, and federal regulations.

14. TRANSPORTATION INFORMATION

DOT:
Shipping Name: Amines, Liquid, Corrosive, N.O.S. (polyethylenepolyamides, pentaethylenehexamine)
Hazard Class: 8
Identification Number: UN2735
Packing Group: III
MARINE POLLUTANT

15. REGULATORY INFORMATION

Hazard Classification

United States – OSHA (29 CFR 1910.1200): This product is considered hazardous under the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
Canada – WHMIS Classification (CPR, SOR/88-66): Not established.

International Inventories

All components of this product are listed on or exempt from the following inventories:

- (yes) - European Inventory of Existing Commercial Substances (EINECS)
 (yes) - United States Toxic Substances Control Act (TSCA) Inventory

U.S. Federal Regulations

TSCA 12(b) Export Notification: None.

Clean Air Act amendments of 1990 (CAA, Section 11240: CFR 82): None.

Clean Water Act (CWA, 40 CFR 116): None.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA, 40 CFR 302): None.

Superfund Amendments and Reauthorization Act, Title III (SARA):

SARA Section 302 (40 CFR 355) Extremely Hazardous Substances: None.

SARA Section 311/312 (40 CFR 370) Hazard Category: Acute.

SARA Section 313 (40 CFR 372) Toxics Release Inventory: None.

U.S. State Regulations

California Proposition 65: Contains no listed chemicals known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under this statute.

16. OTHER INFORMATION

HMIS Rating

HMIS Index: *- chronic, 0 – Minimal, 1 – slight, 2- moderate, 3 – serious, 4 –severe

Health: 2

Flammability: 1

Physical Hazard: 0

Additional Contacts:

Prepared by: ND Industries, Inc. – Safety, Health and Environmental Affairs

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Reasons for Revision: n/a

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