



MATERIAL SAFETY DATA SHEET



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

Revision Date: 3/29/2011

MSDS No.: ND4080

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: 923 Epoxy Adhesive Hardener Part - B

Synonyms: NB143P53C

Use of the Substance/Preparation: Epoxy adhesive curing agent

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:

Amber liquid with ammonia odor.
Causes severe eye burns.
Causes severe skin burns.
Causes burns of mouth and throat.
May cause sensitization by skin contact.
Causes respiratory tract irritation.
Harmful if inhaled.
May cause delayed lung injury.
Harmful if swallowed.
Aspiration hazard. Can enter lungs and cause damage.

Principle Routes of Exposure: Skin, eyes, and inhalation.

POTENTIAL HEALTH EFFECTS:

Eye Contact: Avoid contact with eyes. Causes severe eye irritation with corneal injury which may result in permanent impairment of vision, even blindness. May cause irreversible eye damage. Vapor may cause eye irritation characterized by discomfort and redness.

Skin Contact: Avoid contact with skin. Brief contact may cause skin burns. May cause sensitization by skin contact. Absorption through the skin may cause central nervous system effects.

Inhalation: Vapor from heated material or mist may cause serious adverse effects. Excessive exposure may cause severe irritation to upper respiratory tract (nose and throat), and lungs. May cause central nervous system effects such as headache, nausea, dizziness, confusion, and breathing

Ingestion:	difficulties. Severe cases of overexposure can result in respiratory failure. Not expected to be a route of entry under industrial use conditions. Moderate toxicity if swallowed. May cause severe burns of mouth and throat, as well as a danger of perforation of the esophagus and the stomach.
Carcinogenic Effects:	This product contains no listed carcinogens according to IARC, ACGIH, NTP and/or OSHA in concentrations of 0.1 percent or greater.
Target Organ Effects: Medical Conditions Aggravated by Exposure:	Skin, eyes, respiratory system, central nervous system.. Skin disorders and allergies. Asthma. Eye disease. Neurological disorders.
Environmental Effects:	No data on product itself.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS Number	EINECS Number	Weight %	Classification
Polyamide Curing Agent	mixture	n/a	40-50	C: R34-43
Amine Curing Agent	4246-51-9	224-207-2	25-35	C: R34-43
Amine Curing Agent	mixture	n/a	10-15	Xi: R43
Amine Curing Agent	Mixture	n/a	5-10	Xn: R22; R36/38
Nonylphenol	84852-15-3	284-325-5	5-9	C: N: R22; R34, R50/53; R62-63
Silicon dioxide	67762-90-7	n/a	1-5	None

4. FIRST AID MEASURES

Eye Contact:	Rinse immediately with plenty of water, irrigating with a gentle and continuous stream until the patient receives medical care. If medical care is not promptly available, continue irrigating for at least one hour. Seek medical attention.
Skin Contact:	Remove contaminated clothing. Wash off immediately with mild soap and plenty of water for at least 30 minutes. Cover wound with a sterile dressing. Seek medical attention.
Inhalation:	Move to fresh air. If breathing has stopped or is labored, give assisted respirations. Supplemental oxygen may be indicated. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately. If symptoms persist or you feel unwell seek medical attention.
Ingestion:	Seek immediate medical attention. Do not induce vomiting unless directed to do so by a medical professional. If vomiting occurs, prevent aspiration of vomit. Turn victim's head to the side.
Notes to Physician:	Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Application of corticosteroid cream has been effective in treating skin irritation.

5. FIRE AND IGNITION INFORMATION

Flash Point	>200°F
Explosion Limits in Air – Upper (%):	Not established.
Explosion Limits in Air – Lower (%):	Not established.
OSHA Flammability Classification:	Combustible
Auto-ignition Temperature:	Not established.
Extinguishing Media:	Alcohol-resistant foam.

	Carbon dioxide (CO ₂). Dry chemical. Dry sand. Limestone powder.
Special Protective Equipment for Firefighters:	Avoid contact with skin and eyes. Do not breathe vapors. Use personal protective equipment. Wear self contained breathing apparatus for fire fighting, and full turnout gear.
Specific Hazards	May generate ammonia gas. May generate toxic nitrogen oxide gases. Incomplete combustion may form carbon monoxide. Downwind personnel must be evacuated. Burning produces noxious and toxic fumes. Direct water stream may spread fire.
Hazardous Decomposition and/or Combustion Products:	Nitric acid. Ammonia. Nitrogen oxides (NO _x). Nitrogen oxide can react with water vapors to form corrosive nitric acid. Carbon monoxide. Carbon dioxide (CO ₂). Phenolic compounds Nitrosamine.
Risk of Dust Explosion:	Not applicable.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:	Evacuate personnel to safe areas. Only trained personnel should clean a spill. Ventilate spill area. Use self-contained breathing apparatus and chemically protective clothing. Wear suitable protective clothing, gloves and eye/face protection.
Methods for Cleaning Up:	Small spills may be covered with material, such as, clay, dirt, Milsorb, or sand. Some cellulosic materials, such as wood chips, sawdust, ground corncobs, and peat moss have shown reactivity with ethyleneamines, and should be avoided. Place in appropriate chemical waste container. Spill area may be washed with water.
Environmental Precautions:	Construct a dike to prevent spreading. Do not allow spill to enter rivers, sewers, or other water courses.

7. HANDLING AND STORAGE

Handling:	Do not use sodium nitrite or other nitrosating agents in formulations containing this product. Suspected cancer causing nitrosamines could be formed. Emergency showers and eye wash stations should be readily accessible. Adhere to work practice rules established by government regulations. Avoid contact with skin and eyes. Avoid breathing vapors or mists. Use personal protective equipment. When using, do not eat, drink or smoke.
Storage:	Do not store near acids. Do not store in reactive metal containers. Keep containers tightly closed in a dry, cool and well-ventilated place.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMITS

Exposure limits for those components that have limits are stated below.

Amorphous Silica: US OSHA PEL: 6 mg/m³ TWA inhalable

US ACGIH-TLV: 10 mg/m³ TWA inhalable

PEL: Permissible Exposure Limit
STEL: Short Term Exposure Limit
TLV: Threshold Limit Value
TWA: Time Weighted Average
US ACGIH: United States American Conference of Governmental Industrial Hygienists
US OSHA: United States Occupational Safety and Health Administration

ENGINEERING CONTROLS

Provide readily accessible eye wash stations and safety showers.
Provide natural or explosion-proof ventilation adequate to ensure concentrations are kept below exposure limits. Local exhaust ventilation may be necessary for some operations.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Wear appropriate NIOSH approved respirator when ventilation is inadequate. If exposure causes eye irritation use approved full face respirator.

Hand Protection: Wear chemical impervious gloves.
Neoprene gloves.
Butyl-rubber.
Nitrile rubber.
The breakthrough time of the selected glove(s) must be greater than the intended use period.

Eye Protection: Full face shield with chemical safety goggles underneath.

Skin and Body Protection: Long sleeve shirts and trousers without cuffs. Chemical impervious coveralls.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Yellow liquid
Odor:	Ammonia odor
pH	Not established
Vapor Pressure:	Not established
Boiling Point/Range:	Not established
Melting Point/Range:	Not applicable
Water Solubility:	Not established
Specific Gravity:	Not established
% Volatile (by Volume):	Not established
Evaporation Rate:	Not established
Viscosity:	Not established

10. STABILITY AND REACTIVITY

Stability: Stable under normal conditions.

Hazardous Polymerization: Will not occur.

Mechanical Sensitivity (shock): Not applicable.

Conditions to Avoid: Organic acids (i.e. acetic acid, citric acid etc.).
Mineral acids.
Metals: Brass, Bronze, Copper, Copper alloys.
CAUTION! 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.
Nitrous acid and other nitrosating agents.
Oxidizing agents.
Acrylates.

Hazardous Decomposition and/or Combustion Products:

- Alcohols.
- Aldehydes.
- Ketones.
- Sodium hypochlorite.
- Halogenated hydrocarbons.
- Reaction with peroxides may result in violent decomposition of peroxide possibly creating an explosion.
- Nitric acid.
- Ammonia.
- Nitrogen oxides (NOx).
- Nitrogen oxide can react with water vapors to form corrosive nitric acid.
- Carbon monoxide.
- Carbon dioxide (CO₂).
- Nitrosamine.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Oral LD50: No data is available on the product itself.
Inhalation LC50: No data is available on the product itself.
Dermal LC50: No data is available on the product itself
Eye Irritation: No data is available on the product itself.
Skin Irritation: No data is available on the product itself.

CHRONIC TOXICITY

Carcinogenic Effects: No data is available on the product itself.
Mutagenic Effects: No data is available on the product itself.
Reproductive Toxicity: No data available on the product itself.

12. ECOLOGICAL INFORMATION

Information given is based on data on the components and the toxicology of similar products.

Aquatic Toxicity: No data is available on the product itself.

ENVIRONMENTAL FATE

Mobility: No data is available on the product itself.
Bioaccumulation: No data is available on the product itself.
Persistence / Degradability: No data is available on the product itself.
Distribution to Environmental Compartments: No data is available on the product itself.

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 container and unused contents in accordance with federal, state, and local requirements.

14. TRANSPORTATION INFORMATION**CFR**

Proper shipping name: Corrosive Liquid, n.o.s. (3,3'-(Oxybis(2,1-ethane-diyloxy))bis-1-propanamine, nonylphenol)

Class: 8

UN Number: UN1760

Packing Group II

15. REGULATORY INFORMATION**Hazard Classification**

United States – OSHA (29 CFR 1910.1200): This product is considered hazardous under OSHA.

International Inventories

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

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

U.S. Federal Regulations

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

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

SARA Section 302 (40 CFR 355) Extremely Hazardous Substances: Contains no EHS.

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

SARA Section 313 (40 CFR 372) Toxics Release Inventory: Component(s) above 'de minimus' level: None.

Pharmaceutical Information: Not approved.

U.S. State Regulations

California Proposition 65: This product does not contain chemicals known to State of California to cause cancer, birth defects or any other harm.

SCAQMD VOC Limits: Compliant.

16. OTHER INFORMATION**HMIS Rating**

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

Health: 3

Flammability: 1

Physical Hazard: 0

Additional Contacts:

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Previous Revision Date: 12/20/2010
Reasons for Revision: Formula adjustment.

Disclaimer:

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