



# Material Safety Data Sheet

**CHEMTREC Transportation  
Emergency Phone: 800-424-  
9300**

**Pittsburgh Poison Control  
Center  
Health Emergency No.: 412-  
681-6669**

•NOTE: The CHEMTREC Transportation  
•Emergency Phone is to be used only in the  
•event of chemical emergencies involving a  
•spill, leak, fire, exposure or accident involving  
•chemicals

## Section 1 - Chemical Product / Company Information

**Product Name:** THERMALINE 450 / 451 (aka  
INDULON 238) PART B  
**Revision Date:** 08/15/2007  
**Identification  
Number:** PLMSDS 0928B1NL  
**Supercedes :** 08/01/2005  
**Product  
Use/Class:** Amine Cured Novolac Epoxy - FOR  
INDUSTRIAL USE ONLY  
**Preparer:** Regulatory, Department  
**Manufacturer:** Carboline Company  
350 Hanley Industrial Ct.  
St. Louis, MO 63144

## Section 2 - Composition / Information On Ingredients

Chemical Name	CAS Number	Weight % Less Than	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA-CEIL
DIAMINOCYCLOHEXANE	694-83-7	60.0	N/E	N/E	N/E	N/E
BENZYL ALCOHOL	100-51-6	40.0	N/E	N/E	N/E	N/E

## Section 3 - Hazards Identification

**Emergency Overview:** Moderate respiratory irritant. Moderate skin irritant. Irritating to eyes. May cause sensitization by skin contact. Contains a material which can cause nervous system effects.

**Effects Of Overexposure - Eye Contact:** May cause eye burns. 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 can cause the perception of "blue haze" or "fog" around lights, although this is a temporary effect and has no known residual effect. Causes eye irritation.

**Effects Of Overexposure - Skin Contact:** May cause skin burns. May be harmful if absorbed through the skin.

**Effects Of Overexposure - Inhalation:** Harmful if inhaled, may affect the brain or nervous system, causing dizziness, headache, or nausea. Harmful if inhaled and may cause delayed lung injury. May cause central nervous system effects, such as headache, nausea, dizziness, confusion, breathing difficulties. Severe cases of overexposure can result in respiratory failure. May cause nose, throat and lung irritation. Inhalation of vapors and/or aerosols in high concentration may cause irritation of the respiratory system.

**Effects Of Overexposure - Ingestion:** May be harmful if swallowed. May cause central nervous system

effects, such as headache, nausea, vomiting, abdominal pain, dizziness, confusion, breathing difficulties. Severe cases of overexposure can result in respiratory failure.

**Effects Of Overexposure - Chronic Hazards:** This product contains no listed carcinogens according to IARC, ACGIH, NTP and/or OSHA in concentrations of 0.1 percent or greater. Muscular dysfunction. Repeated or prolonged contact causes sensitization, asthma and eczemas. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage.

**Primary Route(s) Of Entry:** Skin Contact, Skin Absorption, Inhalation, Ingestion, Eye Contact

**Medical Conditions Prone to Aggravation by Exposure:** If sensitized to amines, epoxies, or other chemicals do not use. See a physician if a medical condition exists.

## Section 4 - First Aid Measures

**First Aid - Eye Contact:** If material gets into eyes, flush with water immediately for 15 minutes. Consult a physician.

**First Aid - Skin Contact:** In case of contact, wash skin immediately with soap and water.

**First Aid - Inhalation:** If inhaled, remove to fresh air. Administer oxygen if necessary. Consult a physician if symptoms persist or exposure was severe.

**First Aid - Ingestion:** If swallowed do not induce vomiting. Seek immediate medical attention.

## Section 5 - Fire Fighting Measures

**Flash Point, F:** 201F (93C)  
(Setaflash)

**Lower Explosive Limit, %:** N/A  
**Upper Explosive Limit, %:** N/A

**Extinguishing Media:** Carbon Dioxide, Dry Chemical, Foam, Water Fog

**Unusual Fire And Explosion Hazards:** May generate ammonia gas. May generate toxic nitrogen oxide gases. Use of water may result in the formation of very toxic aqueous solutions. Do not allow run-off from fire-fighting to enter drains or water courses. Incomplete combustion may form carbon monoxide. Downward personnel must be evacuated. Burning produces obnoxious and toxic fumes.

**Special Firefighting Procedures:** Evacuate hazard area of unprotected personnel. Use a NIOSH approved self-contained breathing unit and complete body protection. Cool surrounding containers with water in case of fire exposure.

## Section 6 - Accidental Release Measures

**Steps To Be Taken If Material Is Released Or Spilled:** Use self-contained breathing apparatus and chemically protective clothing. Wear suitable protective clothing, gloves and eye/face protection. Evacuate personnel to safe areas.

## Section 7 - Handling And Storage

**Handling:** Do not get in eyes, on skin, or on clothing. Keep container tightly closed when not in use. Wear

personal protection equipment. Do not breathe vapors. Wash thoroughly after handling. If pouring or transferring materials, ground all containers and tools. Do not weld, heat, cut or drill on full or empty containers. Use only in accordance with Carboline application instructions, container label and Product Data Sheet.

**Storage:** Keep away from heat, sparks, open flames and oxidizing agents. Keep containers closed. Store in a cool, dry place with adequate ventilation.

## Section 8 - Exposure Controls / Personal Protection

**Engineering Controls:** Use explosion-proof ventilation when required to keep below health exposure guidelines and Lower Explosion Limit (LEL).

**Respiratory Protection:** Use only with ventilation to keep levels below exposure guidelines listed in Section 2. User should test and monitor exposure levels to ensure all personnel are below guidelines. If not sure, or not able to monitor, use MSHA/NIOSH approved supplied air respirator. Follow all current OSHA requirements for respirator use.

**Skin Protection:** Recommend impervious gloves and clothing to avoid skin contact. If material penetrates to skin, change gloves and clothing. The use of protective creams may be beneficial to certain individuals. Protective creams should be applied before exposure.

**Eye Protection:** Recommend safety glasses with side shields or chemical goggles to avoid eye contact.

**Other protective equipment:** Eye wash and safety showers should be readily available.

**Hygienic Practices:** Wash with soap and water before eating, drinking, smoking, applying cosmetics, or using toilet facilities. Use of a hand cleaner is recommended. Launder contaminated clothing before reuse. Leather shoes can absorb and allow hazardous materials to pass through. Check shoes carefully after soaking before reuse.

## Section 9 - Physical And Chemical Properties

<b>Boiling Range:</b>	401F (205C) - 401F (205C)	<b>Vapor Density:</b>	Heavier than Air
<b>Odor:</b>	Strong Amine	<b>Odor Threshold:</b>	N/D
<b>Appearance:</b>	Viscous Amber Liquid	<b>Evaporation Rate:</b>	Slower Than Ether
<b>Solubility in H2O:</b>	Slightly Soluble		
<b>Freeze Point:</b>	N/D	<b>Specific Gravity:</b>	1.04
<b>Vapor Pressure:</b>	N/D	<b>PH:</b>	N/D
<b>Physical State:</b>	Liquid		

(See section 16 for abbreviation legend)

## Section 10 - Stability And Reactivity

**Conditions To Avoid:** Avoid contact with the following materials: Oxidizing agents, Peroxides, Sodium Hypochlorite, Organic acids, Mineral Acids, Reactive metals, and metals reactive with hydroxyl compounds.

**Incompatibility:** Avoid contact with strong oxidizing agents.

**Hazardous Decomposition Products:** Carbon monoxide, nitrogen oxides, and unidentified organic compounds. Consider all smoke and fumes from burning material as very hazardous. Welding, cutting or

abrasive grinding can create smoke and fumes. Do not breathe any fumes or smoke from these operations.

**Hazardous Polymerization:** Will not occur under normal conditions.

**Stability:** This product is stable under normal storage conditions.

## Section 11 - Toxicological Information

**Product LD50:** 4400 MG/KG, ORAL, RAT

**Product LC50:** N/D

Chemical Name	CAS Number	LD50	LC50
DIAMINOCYCLOHEXANE	694-83-7	1752 MG/KG,RAT,ORAL	NOT AVAILABLE
BENZYL ALCOHOL	100-51-6	1230MG/KG RAT,ORAL	1000PPM/8HRS RAT,INHALATION

## Section 12 - Ecological Information

**Ecological Information:** No data

## Section 13 - Disposal Information

**Disposal Information:** Dispose of in accordance with State, Local, and Federal Environmental regulations. Responsibility for proper waste disposal is with the owner of the waste.

## Section 14 - Transportation Information

<b>DOT Proper Shipping Name:</b>	Not Regulated	<b>Packing Group:</b> N/A
<b>DOT Technical Name:</b>	N/A	<b>Hazard Subclass:</b> N/A
<b>DOT Hazard Class:</b>	None	<b>Resp. Guide</b> N/A
<b>DOT UN/NA Number:</b>	None	<b>Page:</b>

**Additional Notes:** None.

## Section 15 - Regulatory Information

### CERCLA - SARA HAZARD CATEGORY

This product has been reviewed according to the EPA Hazard Categories promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

IMMEDIATE HEALTH HAZARD

### SARA SECTION 313

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

No Section 313 Substances exist in this product

#### **TOXIC SUBSTANCES CONTROL ACT**

All components of this product are listed on the TSCA inventory.

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

No TSCA 12(B) Substances exist in this product

#### **U.S. STATE REGULATIONS AS FOLLOWS:**

##### **NEW JERSEY RIGHT-TO-KNOW**

The following materials are non-hazardous, but are among the top five components in this product.

**Chemical Name**  
TRADE SECRET

**CAS Number**  
TRADE SECRET

##### **PENNSYLVANIA RIGHT-TO-KNOW**

The following non-hazardous ingredients are present in the product at greater than 3%.

**Chemical Name**  
TRADE SECRET

**CAS Number**  
TRADE SECRET

##### **CALIFORNIA PROPOSITION 65**

**Warning: The following ingredients present in the product are known to the state of California to cause Cancer:**

No California Proposition 65 Carcinogens exist

**Warning: The following ingredients present in the product are known to the state of California to cause birth defects, or other reproductive hazards:**

No California Proposition 65 Reproductive Toxins exist

#### **INTERNATIONAL REGULATIONS AS FOLLOWS:**

##### **CANADIAN WHMIS**

This MSDS has been prepared in compliance with Controlled Product Regulations except for the use of the 16 headings.

**CANADIAN WHMIS CLASS:** D2A D2B

#### **Section 16 - Other Information**

##### **HMIS Ratings**

**Health: 2**

**Flammability: 1**

**Reactivity: 0**

**Personal Protection: X**

**VOLATILE ORGANIC COMPOUNDS, GR/LTR MIXED (UNTHINNED):** Refer to Part A MSDS

**REASON FOR REVISION:** Added name of Thermaline 451 to Section 1

**Legend:** N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. It is the responsibility of the user to comply with all applicable federal, state, and local laws and regulations