

**1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION**
**24-Hour Emergency Phone Number**

**800-523-9374      North America**  
**610-481-7711      Outside North America**

Product: Ancamine\* 2450 Curing Agent

Effective Date: 03/07/08

Date Printed: 03/07/08

MSD: H 2450U - SA00005

Manufactured by:

Air Products and Chemicals, Inc.  
 7201 Hamilton Blvd.  
 Allentown, PA 18195-1501  
 800-345-3148

Customer Information:

**2. COMPOSITE / INFORMATION OR INGREDIENTS**

CAS# 135108-88-2	Formaldehyde, polymer with benzeneamine, hydrogenated	60%
CAS# 694-83-7	Cyclohexanediamine, 1,2-	40%

Chemical Family: Cycloaliphatic Amine

**3. HEALTH HAZARDS INFORMATION**
**Emergency Overview:**

Harmful if swallowed  
 Corrosive  
 Keep away from heat and sources of ignition.  
 Combustible liquid  
 Severe respiratory irritant  
 Severe skin irritant  
 Severe eye irritant  
 May cause sensitization by skin contact  
 May cause sensitization by inhalation.

**Potential Health Effects:**

Target Organs: Respiratory system, eyes, skin.  
 Eyes: Causes eye burns. May cause blindness. Severe eye irritation.  
 Skin: Causes skin burns.  
 Ingestion: Harmful if swallowed. If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.  
 Inhalation: Harmful if inhaled and may cause delayed lung injury. Inhalation of aerosol may cause irritation to the upper respiratory tract. Risk of serious damage to the lungs (by inhalation). May cause nose, throat, and lung irritation. Can cause severe eye, skin and respiratory tract burns. Inhalation of vapors and/or aerosols in high concentration may cause irritation of respiratory system.  
 Chronic Effects: This product contains no listed carcinogens according to IARC, ACGIH, NTP and/or OSHA in concentrations of 0.1 percent or greater. Prolonged contact may result in chemical burns and permanent damage. Repeated or prolonged contact causes sensitization, asthma and eczemas.  
 Aggravated Medical Condition: Asthma. Adverse respiratory effects (such as cough, tightness of chest or shortness of breath). Eye disease Skin disorders and Allergies.  
 Adverse skin effects (such as rash, irritation or corrosion). Adverse eye effects (such as conjunctivitis or corneal damage)

**4. FIRST AID INFORMATION**

General advice: Seek medical advice. 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.

Eyes: Rinse immediately with plenty of water also under the eyelids for at least 20 minutes. Remove contact lenses.

Skin: Immediately remove contaminated clothing, and any extraneous chemical, if possible to do so without delay. Wash off immediately with plenty of water for at least 20 minutes. Cover wound with sterile dressing. Take off contaminated clothing and shoes immediately.

NOTE TO PHYSICIANS: Application of corticosteroid cream has been effective in treating skin irritation.

Ingestion: If a person vomits when lying on his back, place him in the recovery position. Do not induce vomiting without medical advice. Drink 1 or 2 glasses of water. Prevent aspiration of vomit. Turn victim's head to the side.

Inhalation: 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. Move to fresh air.

## 5. FIRE FIGHTING INFORMATION

Extinguishing Media:

Alcohol-resistant foam, Carbon dioxide (CO<sub>2</sub>), Dry chemical, Dry sand, Limestone powder.

Specific 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. Fire or intense heat may cause violent rupture of packages. May form explosive mixtures in air. Downwind personnel must be evacuated. Burning produces obnoxious and toxic fumes. In the event of fire, cool tanks with water spray.

Special protective equipment for fire-fighters

Avoid contact with the skin. A face shield should be worn. Use personal protective equipment. Wear self contained breathing apparatus for fire fighting if necessary

Further information

Do not allow run-off from fire fighting to enter drains or water courses.

## 6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Use self-contained breathing apparatus and chemically protective clothing. Wear suitable protective clothing, gloves and eye/face protection. Remove all sources of ignition. Evacuate personnel to safe areas.

Environmental precautions: Shut off or remove all ignition sources. Construct a dike to prevent spreading.

Methods for cleaning up: Approach suspected leak areas with caution. Contact Air Products' Emergency Response Center for advice. Absorb with inert absorbent materials such as: Dry sand. Vermiculite. Activated charcoal. Place in appropriate chemical waste container

Additional advice: Open enclosed spaces to outside atmosphere. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous. If possible, stop flow of product.

## 7. HANDLING AND STORAGE

Handling: See "Flammable and Combustible Liquid Code" NFPA No. 30, National Fire Protection Association, Boston, MA. Do not use sodium nitrite or other nitrosating agents in formulations containing this product. Suspected cancer-causing nitrosamines could be formed. Avoid contact with skin and eyes. Use only in well-ventilated areas. Avoid breathing vapors and/or aerosols. Emergency showers and eye wash stations should be readily accessible. Adhere to work practice rules established by government regulations. Avoid contact with eyes. Use personal protective equipment. When using, do not eat, drink or smoke.

Storage: Store in steel containers preferably located outdoors, above ground, and surrounded by dikes to contain spills or leaks. Do not store near acids. Keep containers tightly closed in a dry, cool and well-ventilated place. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Keep away from heat and sources of ignition. Keep in a dry, cool place. Keep away from Oxidizers.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTIVE EQUIPMENT

Engineering measures.

Use explosion-proof equipment.

Provide readily accessible eye wash stations and safety showers.

Provide natural or explosion-proof ventilation adequate to ensure concentrations are kept below exposure limits.

**Personal protective equipment:**
**Respiratory protection:** Wear appropriate respirator when ventilation is inadequate.

**Hand protection:** Neoprene gloves  
 Butyl-rubber gloves  
 Nitrile rubber  
 Impervious gloves  
 The breakthrough time of the selected glove(s) must be greater than the intended use period

**Eye protection:** Full face shield with goggles underneath.  
 Chemical resistant goggles must be worn.

**Skin and body protection:** Slicker Suit  
 Impervious clothing  
 Full rubber suit (rain gear)  
 Rubber or plastic boots  
 Long sleeve shirts and trousers without cuffs

**Environmental exposure controls:** Shut off or remove all ignition sources. Construct a dike to prevent spreading

**Special instructions for protection and hygiene:** Discard contaminated leather articles. Provide readily accessible eye wash stations and safety showers. Wash at the end of each workshift and before eating, smoking or using the toilet.

**9. TYPICAL PHYSICAL AND CHEMICAL PROPERTIES**
**Form:** Liquid  
**Color:** Amber  
**Odor:** Fishy  
**Relative density:** 1 (water = 1)  
**Vapor pressure:** 14.50 mmHg at 70 °F (21 °C)  
**Density:** 62.428 lb/ft<sup>3</sup> (1 g/cm<sup>3</sup>) at 70 °F (21 °C)  
**pH:** Alkaline  
**Boiling point/range:** 411 °F (210.5 °C)  
**Melting point/range:** -40 °F (-40 °C)  
**Flash point:** 181 °F (83 °C)  
**Water solubility:** Insoluble

**10. CHEMICAL STABILITY AND REACTIVITY**
**Stable:** Stable under normal conditions.

**Conditions to avoid:** Heat, flames and sparks.

**Materials to avoid:** Sodium hypochlorite.  
 Organic acids (i.e. acetic acid, citric acid etc.)  
 Mineral acids  
 Product slowly corrodes copper, aluminum, zinc and galvanized surfaces  
 Reaction with peroxides may result in violent decomposition of peroxide possibly creating an explosion.

**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

**Hazardous decomposition products:** Oxidizing agents

 Nitric acid  
 Ammonia  
 Nitrogen oxides (NO<sub>x</sub>)  
 Nitrogen oxide can react with water vapors to form corrosive nitric acid  
 Carbon monoxide  
 Carbon dioxide (CO<sub>2</sub>)  
 Nitrosamine

## 11. TOXICOLOGICAL INFORMATION

Acute Health Hazard

Ingestion:	LD50 : > 500 mg/kg Species : Rat
Inhalation:	No data is available on the product itself
Skin:	No data is available on the product itself
Skin. - Components	
Formaldehyde, polymer with benzeneamine, hydrogenated:	LD50 : > 1,000 mg/kg Species : Rabbit.
Eye irritation/corrosion:	Severe eye irritation
Acute dermal irritation/corrosion:	Severe skin irritation

Chronic Health Hazard:

Mixed polycycloaliphatic amines was tested in rats for systemic effects in a subchronic (28-day) oral study at doses ranging from 15 to 300 mg/kg/day. Effects seen at 300 mg/kg/day included decreased survival, decreased body weight gain, increased liver, kidney, and adrenal weights and histological changes in the liver, kidney, adrenals and spleen. The No-Observed-Adverse-Effect-Level (NOAEL) was 15 mg/kg/day.

## 12. ECOLOGICAL INFORMATION

Ecotoxicity effects:	
Aquatic toxicity:	No data is available on the product itself.
Toxicity to other organisms:	No data available
Persistence and degradability:	
Mobility:	No data available
Bioaccumulation	No data is available on the product itself

## 13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products:	Contact supplier if guidance is required
Contaminated packaging:	Dispose of container and unused contents in accordance with federal, state, and local requirements

## 14. TRANSPORTATION INFORMATION

CFR	
Proper shipping name:	Amines, liquid, corrosive, n.o.s. (Alicyclic amine)
Class:	8
UN/ID No.	UN2735
Packing group	II

IATA	
Proper shipping name:	Amines, liquid, corrosive, n.o.s. (Alicyclic amine)
Class:	8
UN/ID No.	UN2735
Packing group	II

IMDG	
Proper shipping name:	Amines, liquid, corrosive, n.o.s. (Alicyclic amine)
Class:	8
UN/ID No.	UN2735
Packing group	II

CTC	
Proper shipping name:	Amines, liquid, corrosive, n.o.s. (Alicyclic amine)
Class:	8
UN/ID No.	UN2735
Packing group	II

**15. REGULATORY INFORMATION:**

OSHA Hazard Communication Standard (29 CFR 1910.1200) Hazard Class(es) Corrosive. Sensitizer. Combustible Liquid

Country	Regulatory list	Notification
USA	TSC	Included on Inventory
EU	EINECS	Included on EINECS inventory or polymer substance, monomers included on EINECS inventory or no longer polymer
Canada	DSL	Included on Inventory
Australia	AICS	Included on Inventory
Japan	ENCS	Included on Inventory
South C=Korea	ECL	Included on Inventory
China	SEPA	Included on Inventory
Philippines	PICCA	Included on Inventory

EPA SARA Title III Section 312 (40 CFR 370) Hazard Classification: Acute Health Hazard Fire Hazard

EPA SARA Title III Section 313 (40 CFR 372) Component(s) above 'de minimus' level: None

US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65):

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

WHMIS Hazard Classification:

Combustible Liquid, Very Toxic Material Causing Other Toxic Effects, Toxic Material Causing Other Toxic Effects, Corrosive Material.

**16. OTHER INFORMATION: NA**

The information presented herein is based on data considered to accurately reflect the scientific evidence used in making the hazard determination and is accurate as of the date of preparation of this Material Safety Data Sheet. However, no warranty or representation, expressed or implied, is made as to the accuracy or completeness of the foregoing data and safety information. In addition, the vendor assumes no liability for any loss, damage or injury of any type that may result from or arise out of the use of the product, from any failure to adhere to the recommended practices, from reliance on the scientific evidence used in formulating this assessment, or from any hazards inherent in the nature of the product. No responsibility is assumed by the vendor for any damage or injury from abnormal use, from any failure to adhere to recommended practices, or from any hazards inherent in the nature of the product.