



MATERIAL SAFETY DATA SHEET

N,N-Diethylhydroxylamine 85% (DEHA)

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name: N,N-Diethylhydroxylamine, 85% (DEHA)

(syn: Ethanamine, n-ethyl-n-hydroxy)

Product Use: Oxygen Scavenger

Company: AllChem Industries Industrial Chemicals Group, Inc.

6010 NW First Place

Gainesville, FL 32607

For Emergencies Involving a Spill, Leak, Fire, Exposure or Accident Contact CHEMTREC

(800) 424-9300 or 1-703-527-3887 (International calls)

For Product Information: (800) 523-0450

SECTION 2: HAZARDS IDENTIFICATION

This product is a clear, colorless to light straw liquid with a fishy (amine) odor.

EMERGENCY OVERVIEW:

WARNING!

Flammable liquid and vapor.

May cause eye and skin irritation.

May be harmful if absorbed through skin.

Harmful if swallowed.

Symptoms may be delayed.

Inhalation and skin contact are expected to be the primary routes of occupational exposure to this material. May be harmful if swallowed or absorbed through the skin. High vapor concentrations may be irritating to the respiratory tract.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS#	WT. %
N,N-Diethylhydroxylamine	3710-84-7	85%
Water	7732-18-5	15%

SECTION 4: FIRST AID MEASURES

INGESTION: If conscious, rinse mouth with water, give one glass of water to dilute. DO NOT induce vomiting. Never give anything by mouth to a person who is unconscious or convulsing. Get immediate medical attention.

SKIN CONTACT: Immediately flush affected areas with plenty of running water. Remove contaminated clothing and shoes immediately. Get medical attention.

EYE CONTACT: Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Get medical attention.

INHALATION: Remove victim to fresh air. If breathing has stopped, give artificial respiration. Do not give mouth to mouth. If breathing is difficult, administer oxygen. Get medical attention.

SECTION 5: FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Use water spray, carbon dioxide, dry chemical or foam.

SPECIAL FIRE FIGHTING PROCEDURES: Stop leak if it is safe to do so. Evacuate area of all non-emergency personnel. Firefighters should wear full emergency equipment and NIOSH approved positive pressure self-contained breathing apparatus. Fight fire from upwind and cool exposed intact containers and structures with water spray or stream at maximum range. Runoff from fire control may cause pollution. Firefighting equipment should be thoroughly decontaminated after use.

UNUSUAL FIRE AND EXPLOSION HAZARDS: This product is flammable and forms explosive mixtures with air. Concentrated vapors are heavier than air and may flow along surfaces to remote ignition sources and flash back. Vapors may



collect in low areas. At elevated temperatures, containers may rupture due to pressure build-up. Decomposition and combustion products may be hazardous.

SECTION 6: ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Wear appropriate protective clothing as described in Section 8 to prevent eye and skin contact and appropriate respirator to prevent overexposure. Evacuate spill area and keep unprotected personnel away. Eliminate all ignition sources and ventilate the area. Stop leak if you can do it without risk. Absorb with inert materials and place into appropriate, sealed, approved containers for disposal. Allow vapors to dissipate. Use non-sparking tools and equipment to collect. Use water spray to disperse the vapors and protect personnel. For large spills, dike and transfer liquid to suitable approved containers for disposal. Prevent material and washings from entering waterways. Report release as required by local and federal regulations.

SECTION 7: HANDLING and STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Protect containers from physical damage. Store in a cool, dry, well ventilated area away from heat and other sources of ignition. Storage of containers and bulk liquids should conform to applicable regulations for flammable liquids. Keep product and vapors away from heat, direct sunlight, flames, sparks and all other sources of ignition. Electrically bond and ground containers for transfer. Prevent contact with the eyes, skin and clothing. Do not breathe vapors or mists. Wash thoroughly after handling. Use only with adequate ventilation and appropriate protective clothing.

OTHER PRECAUTIONS: Keep containers tightly closed. Empty containers retain product residues and may be hazardous. Follow all MSDS precautions in handling empty containers.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

INGREDIENTS CAS# EXPOSURE LIMITS

N,N-Diethylhydroxylamine 3710-84-7 None Established

RESPIRATORY PROTECTION: Use NIOSH approved respirator with organic vapor cartridges if needed. For higher concentrations, an approved supplied air respirator (with escape bottle if required) or self-contained breathing apparatus may be required. Selection of respiratory protection depends on the contaminant type, form and concentration. Select in accordance with OSHA 1910.134 and good Industrial Hygiene practice.

VENTILATION: Provide adequate general or local exhaust ventilation to minimize exposure levels. Use explosion-proof equipment where required.

PROTECTIVE CLOTHING: Impervious gloves recommended to avoid skin contact. Impervious apron, boots and other clothing are recommended if needed to prevent contact.

EYE PROTECTION: Chemical safety goggles recommended to prevent eye contact unless a full-facepiece respirator is worn.

OTHER PROTECTIVE EQUIPMENT: For operations where contact can occur, a safety shower and an eye wash facility should be available.

SECTION 9: PHYSICAL and CHEMICAL PROPERTIES

APPEARANCE AND ODOR: Colorless to light straw liquid with a fishy (amine) odor. There is no odor threshold data available for this product.

BOILING POINT: 257-266°F/125-130°C

SPECIFIC GRAVITY (H₂O=1): 0.90

VAPOR PRESSURE (@ 25°C): 32 mmHg

VISCOSITY: Not available

VAPOR DENSITY (Air=1): 3.1

EVAPORATION RATE: Not available

SOLUBILITY IN WATER: Soluble

COEFFICIENT of WATER/OIL: -1.5

pH: Not established

FREEZING POINT: -25°C

FLASH POINT: 116°F/46.7°C

METHOD: Seta CC

FLAMMABLE LIMITS: (vol % in air) Not established



AUTOIGNITION TEMPERATURE: Not established

SECTION 10: STABILITY and REACTIVITY

STABILITY: This material is stable.

CONDITIONS TO AVOID: Avoid heat, sparks, open flames and other sources of ignition.

INCOMPATIBILITY: Avoid oxidizing agents, activated carbon and sulfonyl chlorides.

HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition may yield carbon monoxide, carbon dioxide and nitrogen oxides. Begins to decompose slowly at 120-130C, which could liberate diethylamine.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

EYE CONTACT: May cause irritation. Slightly irritating in rabbits.

SKIN CONTACT: May cause irritation. Slightly to moderately irritating in rabbits. Slightly toxic if absorbed through the skin based on animal studies.

INHALATION: May cause respiratory and mucous membrane irritation with sneezing and coughing. Practically non-toxic in rats.

INGESTION: Ingestion may cause mucous membrane and gastrointestinal irritation. Slightly toxic in rats.

CHRONIC EFFECTS OF OVEREXPOSURE: None currently know,

CARCINOGENICITY: None of the components is listed as a carcinogen or suspect carcinogen by NTP, IARC or OSHA.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Individuals with chronic eye, skin or respiratory disorders may be at increased risk from exposure to this material.

TOXICOLOGY DATA:

N,N-Diethylhydroxylamine Oral rat LD50: 2190 mg/kg

Dermal rabbit LD50: 1300 mg/kg

Inhalation rat LC50: 3140 ppm/4hr

An early study produced allergic skin reaction in guinea pigs, however, no allergy was observed in a more recent study.

Repeated inhalation exposure produced changes in the liver and thymus weights and associated blood and clinical chemistry effects in rats. The only histopathological changes were indicative of irritation in nasal passages. Long-term oral exposure produced no adverse effects in rats or mice. No birth defects were observed in rats following oral exposures during pregnancy, even at doses that produced adverse effects on the mothers. No birth defects were noted in mice after inhalation of this and two other concurrently administered materials during pregnancy. Both positive and negative responses were observed in standard assays for genetic changes.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity Values for N,N-Diethylhydroxylamine:

48 hour EC50 Daphnia magna: 111 mg/l

96 hour LC50 guppies: 150 mg/l (neutralized material)

16 hour EC50 bacteria: 37 mg/l

This material is not readily biodegradable (20% after 28 days) and is not expected to bioaccumulate (log Pow -1.5)

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Dispose of in accordance with all local, state and federal regulations. This material is classified as RCRA hazardous waste due to ignitibility.

SECTION 14: TRANSPORT INFORMATION

ALWAYS COMPLY WITH ALL APPLICABLE INTERNATIONAL, FEDERAL, STATE AND LOCAL REGULATIONS REGARDING THE TRANSPORTATION, STORAGE, USE AND DISPOSAL OF THIS CHEMICAL.

Due to the changing nature of regulatory requirements, the information in this document should NOT be considered all-inclusive or authoritative. Users should make their own investigations to determine the suitability of the



information for their particular purposes. International, Federal, State and Local regulations should be consulted to determine compliance with all required reporting requirements.

SECTION 15: REGULATORY INFORMATION

OSHA HAZARD CLASSIFICATION: Flammable, irritant

EPA SARA 311 HAZARD CLASSIFICATION: Acute health, fire hazard

SARA TITLE 111 SECTION 313 INFORMATION: The following chemical is regulated under SARA Title III, Section 313: None

CERCLA HAZARDOUS SUBSTANCE: None

REPORTABLE QUANTITY: None

STATE R-T-K COMPOSITION INFORMATION

COMPONENT CAS # WT% PA NJ MA

N,N-Diethylhydroxylamine 3710-84-7 85 N N N

CALIFORNIA PROPOSITION 65 INFORMATION: This product contains no California Proposition 65 regulated chemicals.

EPA TSCA INVENTORY STATUS: All chemical components are listed on TSCA inventory.

WHMIS CLASSIFICATION: Class B- Division 2 (Flammable Liquid), Class D – Division 2 – Subdivision B (Toxic material causing other chronic effects)

CANADIAN ENVIRONMENTAL PROTECTION ACT: All of the components of this product are listed on the Canadian Domestic

Substances List (DSL). This MSDS has been prepared according to the criteria of the Controlled Products Regulation (CPR) and the MSDS contains all of the information required by the CPR.

AUSTRALIAN INVENTORY OF CHEMICAL SUBSTANCES: All of the components of this product are listed on the AICS inventory.

EUROPEAN INVENTORY OF COMMERCIAL CHEMICAL SUBSTANCES: All of the components of this product are listed on the EINECS inventory.

JAPAN METI: All of the components of this product are existing chemical substances as defined in the Chemical Substance Control Law.

KOREAN EXISTING CHEMICAL LIST: All of the components of this product are listed on the KECL.

PHILIPPINE INVENTORY OF CHEMICALS AND CHEMICAL SUBSTANCES: All of the components of this product are listed on the PICCS.

SECTION 16: OTHER INFORMATION

HMIS HAZARD RATINGS: Health 2 Flammability 2 Reactivity 0

0=Minimal; 1=Slight; 2=Moderate; 3=Serious; 4=Severe

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