



MATERIAL SAFETY DATA SHEET

CONTACT : **LEONID CHEMICALS**
62/A-2 1st Stage, Yeshwanthpur Industrial Suburb
Ashokpuram School Road
Bangalore-560 022, Karnataka, INDIA
Ph: +91-80-2337 8354, Fax: +91-80-2357 4827

N-ETHYLMORPHOLINE, 99%

SECTION 1- CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MSDS Name:

N-Ethylmorpholine, 99%

Catalog Numbers: E043

Synonyms:

Company Information:

LEONID CHEMICALS

62/A-2 1st Stage, Yeshwanthpur Industrial Suburb

Ashokpuram School Road

Bangalore-560 022, Karnataka, INDIA

Ph: +91-80-2337 8354, Fax: +91-80-2357 4827

SECTION 2- COMPOSITION, INFORMATION ON INGREDIENTS

CAS # : 100-74-3
Chemical Name : N-Ethylmorpholine
% : 99%
EINECS# : 202-885-0
Hazard Symbols : XN
Risk Phrases : 10 20/22 36

SECTION 3- HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Flammable. Harmful by inhalation and if swallowed. Irritating to eyes.

Potential Health Effects

Eye:

Causes eye irritation.

Skin:

May cause skin irritation. May be harmful if absorbed through the skin.

Ingestion:

Harmful if swallowed. May cause irritation of the digestive tract.

Inhalation:

Harmful if inhaled. May cause respiratory tract irritation.

Chronic:

Not Available.

SECTION 4- FIRST AID MEASURES

Eyes:

Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately. Do NOT allow victim to rub eyes or keep eyes closed.

Skin:

Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists.

Ingestion:

Get medical aid. Wash mouth out with water.

Inhalation:

Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Notes to Physician:

SECTION 5- FIRE FIGHTING MEASURES

General Information:

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Flammable liquid and vapor.

Extinguishing Media:

Use water spray, dry chemical, carbon dioxide, or chemical foam.

SECTION 6- ACCIDENTAL RELEASE MEASURES

General Information:

Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:

Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container.

SECTION 7 - HANDLING and STORAGE

Handling:

Avoid breathing dust, vapor, mist, or gas. Avoid contact with skin and eyes.

Storage:

Keep away from heat, sparks, and flame. Flammables - area.

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Personal Protective Equipment

Eyes:

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin:

Wear appropriate gloves to prevent skin exposure.

Clothing:

Wear appropriate protective clothing to prevent skin exposure.

Respirators:

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Clear liquid
Color:	Not available.
Odor:	Not available.
pH:	Not available.
Vapor Pressure:	8.1 hPa @ 20 deg C
Viscosity:	Not available.
Boiling Point:	139 deg C @ 760 mmHg
Freezing/Melting Point:	-63 deg C
Autoignition Temperature:	Not available.
Flash Point:	27 deg C (80.60 deg F)
Explosion Limits, lower:	Not available.
Explosion Limits, upper:	Not available.
Decomposition Temperature:	
Solubility in water:	miscible with water
Specific Gravity/Density:	.9050g/cm3
Molecular Formula:	
Molecular Weight:	115.17

SECTION 10 - STABILITY AND REACTIVITY

Chemical Stability:

Stable under normal temperatures and pressures.

Conditions to Avoid:

Incompatible materials, strong oxidants.

Incompatibilities with Other Materials:

Oxidizing agents.

Hazardous Decomposition Products:

Nitrogen oxides, carbon monoxide, carbon dioxide.

Polymerization:

Has not been reported.

SECTION 11 - TOXICOLOGICAL INFORMATION

RTECS#:

CAS# 100-74-3: QE4025000

LD50/LC50:

CAS# 100-74-3: Inhalation, mouse: LC50 = 18000 mg/m³/2H; Oral,
mouse: LD50 = 1200 mg/kg; Oral, rat: LD50 = 1780 mg/kg.

Carcinogenicity:

N-Ethylmorpholine -

Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

See actual entry in RTECS for complete information.

SECTION 12 - ECOLOGICAL INFORMATION

SECTION 13 - DISPOSAL CONSIDERATIONS

Dispose of in a manner consistent with federal, state, and local regulations.

SECTION 14 - TRANSPORT INFORMATION

IATA

Shipping Name: FLAMMABLE LIQUID, N.O.S.*

Hazard Class: 3

UN Number: 1993

Packing Group: III

IMO

Shipping Name: FLAMMABLE LIQUID, N.O.S.*

Hazard Class: 3

UN Number: 1993

Packing Group: III

RID/ADR

Shipping Name: FLAMMABLE LIQUID, N.O.S.*

Hazard Class: 3

UN Number: 1993

Packing Group: III

SECTION 15 - REGULATORY INFORMATION

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: XN

Risk Phrases:

R 10 Flammable.

R 20/22 Harmful by inhalation and if swallowed.

R 36 Irritating to eyes.

Safety Phrases:

S 16 Keep away from sources of ignition - No smoking.

S 24/25 Avoid contact with skin and eyes.

WGK (Water Danger/Protection)

CAS# 100-74-3: 1

United Kingdom Occupational Exposure Limits

CAS# 100-74-3: OES-United Kingdom, TWA 5 ppm TWA; 24 mg/m³ TWA

CAS# 100-74-3: OES-United Kingdom, STEL 20 ppm STEL; 96 mg/m³ STEL

United Kingdom Maximum Exposure Limits

Canada

CAS# 100-74-3 is listed on Canada's DSL List.

CAS# 100-74-3 is listed on Canada's Ingredient Disclosure List.

Exposure Limits

CAS# 100-74-3: OEL-AUSTRALIA:TWA 5 ppm (23 mg/m³);Skin

OEL-BELGIUM:TWA 5 ppm (24 mg/m³);Skin

OEL-DENMARK:TWA 5 ppm (23.5 mg/m³);Skin

OEL-FINLAND:TWA 20 ppm (94 mg/m³);STEL 30 ppm (14 mg/m³);Skin

OEL-FRANCE:TWA 5 ppm (23 mg/m³);Skin

OEL-THE NETHERLANDS:TWA 5 ppm (23 mg/m³);Skin

OEL-THE PHILIPPINES:TWA 20 ppm (94 mg/m³);Skin

OEL-RUSSIA:STEL 5 mg/m³;Skin

OEL-SWEDEN:TWA 2 ppm (25 mg/m³);STEL 10 ppm (50 mg/m³);Skin

OEL-SWITZERLAND:TWA 5 ppm (25 mg/m³)

OEL-UNITED KINGDOM:TWA 5 ppm (23 mg/m³);STEL 20 ppm;Skin

OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV

OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV

US FEDERAL

TSCA

CAS# 100-74-3 is listed on the TSCA inventory.

SECTION 16 - ADDITIONAL INFORMATION

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if the company has been advised of the possibility of such damages.