



Carolina International Sales Co., Inc

MATERIAL SAFETY DATA SHEET

2522 Plantation Center Drive
Matthews, NC 28105
(704) 845 9440

www.ciscochem.com

PRODUCT NAME: N-Methylpyrrolidone

CHEMICAL NAME: N-Methylpyrrolidone

SYNONYMS: NMP, N-METHYL 2 PYRROLIDONE

CAS NUMBER: 872-50-4

PROPERTIES: BOILING POINT: 202 F
VAPOR PRESSURE mm Hg @ 20 c: 0.29
SOLUBILITY IN WATER: Miscible
% VOLATILE BY VOLUME: 100
APPEARANCE: Clear, colorless liquid
SPECIFIC GRAVITY: 1.027
VAPOR DENSITY: 3.4
PH: Nearly neutral.
EVAPORATION (N Bu Ace=1): 0.05

STABILITY:

Stable under normal conditions of use.

INCOMPATIBILITY:

Aluminum, strong alkalies (such as sodium hydroxide), and alkali metals.

HAZARDOUS DECOMPOSITION PRODUCTS:

Possible Hydrogen Chloride, Phosgene, and other highly toxic substances. NOX fumes admitted when heated to decomposition.

CONDITIONS TO AVOID:

Open flames, hot surface, electrical areas or any ignition sources.

HAZARDOUS POLYMERIZATION:

Will not occur.

HAZARDS & ROUTES OF EXPOSURE:

HEALTH EFFECTS: SKIN INHALATION, INGESTION, EYE

SPECIAL HEALTH EFFECTS:

This Material or its emissions may defat skin, cause contact dermatitis, or otherwise aggravate existing skin disease. This material may be a slight health hazard if ingested in large quantities.

CHRONIC HEALTH EFFECTS:

NMP has been shown to produce reproductive and developmental effects at very high, maternally toxic doses, in experimental animals. These observations are not thought to be relevant to occupational usage of NMP. (See toxic info.)

POTENTIAL HEALTH EFFECTS:

EYES:

May cause moderate irritation, including burning sensation, tearing, redness or swelling.

SKIN CONTACT:

May cause delayed skin irritation, and blistering.

INGESTION:

The material may be a slight health hazard if ingested in large quantities.

INHALATION:

No significant sign or symptoms indicate of any adverse health hazard are expected to occur as a result of inhalation exposure.

FLASH POINT, TCC:

199 F



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FIRE FIGHTING MEASURES: AUTOIGNITION TEMPERATURE:
518 F

FLAMMABLE LIMITS:

Upper – 9.5 , Lower – 1.3

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Vapors can be ignited by high energy ignition sources. Decomposes with fire or hot surface to acidic gases and other highly toxic substances. Possibly to phosgene gas formation.

EXTINGUISHING MEDIA:

Mechanical Foam, dry Chemical, or carbon dioxide.

SPECIAL PROSEDURES:

Self-contained breathing equipment should be used in confined areas where the solvent is used or stored. A straight water stream would spread hydrocarbon fires.

PERSONAL RESPIRATORY PROTECTION:

PROTECTION MEASURES: Whenever the vapor or mist concentrate is greater then applicable standards, use a NIOSH or MSHA approved respirator.

VENTILATION:

Use adequate ventilation to keep the vapor mist concentration of this material below applicable standards. Vapors may collect and concentrate in low areas near the ground and displace in the air. Air currents may cause these Vapors to travel to ignition sources distant from the handling site, resulting in flash fire.

SKIN PROTECTION:

Avoid prolonged or repeated skin contact with this material. Wear protective clothing and solvent-resistant gloves.

EYE PROTECTION:

Avoid eye contact with this material. Both chemical safety goggles and plastic face shield should be worn when there is danger of splashing. Spectacle-type glasses do not provide satisfactory protection.

WORK/HYGENIC PRACTICES:

Eye bath and safety shower must be provided in all work areas where this solvent is used or handled. Avoid contact with eyes, skin and clothing. **WASH THOROUGHLY AFTER HANDLING.**

EMERGENCY & FIRST AID PROCEDURES: Accidental Release Measures: **SPILL:**

Spills should be contained immediately. Large spills should be removed by vacuum truck. Smaller spills may be soaked up with absorbent materials, placed in closed containers, labeled, stored, and disposed of properly. Persons performing this work must wear adequate personal protective equipment and clothing. First Aid Measures:

EYES:

In case of eye contact, immediately rinse with clean water for 20-30 minutes. Retract eyelids often. Obtain emergency medical attention.

SKIN CONTACT:

Immedaitely remove contaminated clothing. Wash skin thoroughly with mild soap and water. Flush with lukewarm water for 15 minutes. If sticky, use waterless cleaner first. Seek medical attention is ill effect or irritation develops.

INGESTION:

If large quantity swallowed, give lukewarm water (pint1/2 litre) if victim completely conscious/alert. **DO NOT INDUCE VOITING.** Risk of damage to lungs exceeds poisoning risk. Obtain emergency medical attention.

INHALATION:

If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention. Prompt action is essential.

PHYSICIAN'S NOTE:

If exposed, treat skin and eye burns or irritation conventionally after decontamination. Continue to rinse



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eye with clean water for 10-30 minutes, retracting eyelids often. Contact ophthalmologist immediately.

EXPOSURE NE LIMITS:

TOXICOLOGICAL INFORMATION: Recently completed studies have shown that even sub-chronic exposure to extremely high dietary levels (18,000 ppm) of NMP in laboratory animals has no effect on reproductive organs. These results are consistent with over fifty toxicological studies on NMP which show that NMP is not a mutagen, carcinogen, teratogen, or reproductive toxin.

Recent studies also show that absorption of aqueous NMP through the skin is much less rapid (4.65 ugrams/cm²/hour for females) than previously assumed. The measured dermal permeability constant (K_p) of 1.91-1.94 x 10⁻⁴ cm/hour is constant (K_p=2.54 x 10⁻⁴ cm/hour) estimated from the structure of NMP using EPA methodology (Dermal Exposure assessment – Principles and Applications. EPA/600-8-91-011B, Jan. 1992)

ECOLOGICAL INFORMATION: Protect the environment – DO NOT WASTE THIS SOLVENT. It is recyclable.

DISPOSAL CONSIDERATIONS: Disposal can occur only in properly permitted facilities. Check state and local regulation for any additional requirements as these may be more restrictive than federal laws and regulations. Chemical additions, processing or otherwise altering this material may make the information presented in this MSDA incomplete, inaccurate or otherwise inappropriate. Disposal of this material must be conducted in compliance with all federal, state and local regulations.

CARCINOGENIC NE PROPERTIES & NOTIFICATIONS:

TRANSPORT INFORMATION: SPECIAL SHIPPING INFORMATION:
SHIPMENTS OF THIS PRODUCT MUST BE IN COMPLIANCE WITH ALL APPLICABLE, FEDERAL, PROVINCIAL, AND INTERNATIONAL TRANSPORTATION REGULATIONS.

DOT SHIPPING: Combustible liquid, NOS (1-Methyl-2-Pyrolidinone)
DOT HAZARD CLASSIFICATION: Combustible Liquid
UN/NA NUMBER: NA 1993, PG III
DOT LABELED: Combustible liquid.

HANDLING & STORAGE: SPECIAL SHIPPING INFORMATION:
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GENERAL INFORMATION: