



Safety Data Sheet

(N-METHYLPYRROLIDONE (NMP))

1 – PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME:N-METHYLPYRROLIDONE (NMP)
CHEMICAL NAME/
CLASS/SYNONYMS:1-methylpyrrolidone, NMP, pyrrol-M, N-methyl-2-pyrrolidone
PRODUCT NUMBER:N-METHYLPYRROLIDONE (NMP)
UN/NA NUMBER:None
CHEMICAL FAMILY:Aipolar aprotic solvent
CAS NUMBER:872-50-4
FORMULA:C₅H₉NO

COMPANY:JMN Specialties, Inc.
1100 Victory Drive – Westwego, Louisiana USA 70094
Phone (504) 341-3749, Fax (504) 341-5868
www.jmnspecialties.com

EMERGENCY PHONE:CALL CHEMTEL: Toll Free US & Canada: (800) 255-3924, Outside
USA +01-813-248-0585.

DATE PREPARED:December 23, 2022

2 – HAZARDS IDENTIFICATION

GHS HAZARD CLASSIFICATION:

Physical Hazards

Flammable Liquids:Category 4 - Combustible liquid
Corrosive Liquids:No Hazard Statement established for this Product

Health Hazards

Acute Toxicity:Category 4 - Harmful if swallowed, in contact with skin, inhaled
Skin Corrosion/Irritation:Category 2 - Causes skin irritation
Eye Damage/Irritation:Category 2A - Causes eye irritation
Aspiration Hazard:Category 2 - May be harmful if swallowed and enters airways.
Carcinogen:Group 2B - The agent (mixture) may damage fertility or the
unborn child

Specific Target Organ

Toxicity Single Exposure:Category 3: Respiratory tract irritation (sore throat, cough).

Specific Target Organ

Toxicity Repeated Exposure:Category 2: May cause damage to organs through prolonged or
repeated exposure. (Target Organs: Kidney, Liver, spleen,
Blood)

Hazardous to the Environment

Aquatic (Acute):No Hazard Statement established for this Product, > 100g m/L.
Aquatic (Chronic):No Hazard Statement established for this Product, > 100g m/L.
See Section 11 for additional Toxicological information



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EMERGENCY OVERVIEW:

Pictograms:



Signal Word (GHS-US):**DANGER!**

Hazard Statements:

Physical Hazards (GHS-US):

H227: Combustible liquid

Health Hazards (GHS-US):

H315+ H319+H335+H360: Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. May damage fertility or the unborn child.

Environmental Hazards (GHS-US):

H402: Harmful to aquatic life

Precautionary Statements (GHS-US):

P101+102+103: If medical advice is needed, have product container or label at hand. Keep out of the reach of children. Read label before use.

P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking. P261 - Avoid breathing dust/fume/gas/mist/vapors/spray. P264 - Wash skin thoroughly after handling. P271 - Use only outdoors or in a well-ventilated area. P280 - Wear protective gloves/protective clothing/eye protection/face protection.

P233+P403+P405: Keep container tightly closed. Store in a well ventilated place. Store locked up.

Response Statements (GHS-US):

P302+352 - IF ON SKIN: Wash with plenty of soap and water. P304+340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P305+351+338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P308+313 - IF exposed or concerned: Get medical attention/advice. P312 - Call a POISON CENTER or doctor/physician if you feel unwell. P332+313 - If skin irritation occurs, get medical advice/attention. P337+313 - If eye irritation persists, get medical advice/attention. P362+364 - Take off contaminated clothing and wash it before reuse. P501: Dispose of contents/container: Treatment, storage, transportation and disposal must be in accordance with Federal, State/Provincial and Local Regulations, and product characteristics at time of disposal.

TOTAL VOC's:.....100%



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3 – COMPOSITION / INFORMATION ON INGREDIENTS

HAZARDOUS INGREDIENT	PERCENT*	CAS NUMBER
N-Methyl-2-pyrrolidone	> 99.0	872-50-4

*Any concentration shown as a range is to protect confidentiality or is due to batch variation. When not listed, mixtures may contain water [CAS No. 7732-18-5] to 100%.

4 – FIRST-AID MEASURES

BREATHING (INHALATION):..... Remove from exposure area to fresh air immediately. If breathing has stopped, perform artificial resuscitation. Keep person warm and at rest. Treat symptomatically and supportively. Seek medical attention immediately. Qualified medical personnel should consider administering oxygen.

SWALLOWING (INGESTION):..... Give large amounts of fresh water or milk immediately. Do not give anything by mouth if person is unconscious or otherwise unable to swallow. If vomiting occurs, keep head below hips to prevent aspiration. Treat symptomatically and supportively. Seek medical attention immediately.

EYES: Flush eye with copious quantities of water. If persistent irritation occurs, obtain medical attention.

SKIN (DERMAL): Remove contaminated clothing and wash affected skin with soap and water. If persistent irritation occurs, obtain medical attention. When using high pressure equipment, injection of product under the skin can occur. If high pressure injuries occur, the casualty should be sent immediately to a hospital. Do not wait for symptoms to develop.

NOTE TO PHYSICIAN: All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred. Material, if aspirated into the lungs, may cause chemical pneumonitis. Skin contact may aggravate an existing dermatitis. Treat appropriately.

5 – FIRE-FIGHTING MEASURES

GENERAL FIRE HAZARDS: Standard procedure for oil / solvent fires. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

AUTOIGNITION TEMP:..... 654.8°F (346°C)



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EXTINGUISHING MEDIA:..... Determined by surrounding material. In case of fire, use water fog, dry chemical, CO₂, or "alcohol" foam. Firefighting should be attempted only by those who are adequately trained and equipped with proper protective equipment.

SPECIAL FIRE FIGHTING

PROCEDURES:..... Spilled product on ground may be slippery.

UNUSUAL FIRE AND

EXPLOSION HAZARDS:..... Containers may explode from internal pressure if confined to fire. Cool with water spray. Vapor accumulation could flash or explode if in contact with an open flame.

6 – ACCIDENTAL RELEASE MEASURES

SPILL PROCEDURES: Wear appropriate personal protective equipment before approaching spill site. For small spills, dilute with water to sewer if allowed by local and state regulations. If unable to wash product with water, absorb with inert material (sand or other approved material) and dispose of in accordance with applicable regulations.

WASTE DISPOSAL: Treatment, storage, transportation and disposal must be in accordance with Federal, State/Provincial and Local Regulations. Regulations may vary in different locations. Characterization and compliance with applicable laws are the responsibility solely of the generator. Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

RCRA STATUS: This product as produced is not specifically listed as an EPA RCRA hazardous waste according to federal regulations (40 CFR 261). However, when discarded or disposed of, it may meet the criteria of an "characteristic" hazardous waste. This material could become a hazardous waste if mixed or contaminated with a hazardous waste or other substance(s). It is the responsibility of the user to determine if disposal material is hazardous according to federal, state and local regulations.



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7 – HANDLING and STORAGE

STORAGE:..... Keep in a tightly closed container, stored in a cool, dry, ventilated area below 44°C (110°F). Protect against physical damage. Isolate from incompatible substances. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product. Drum must not be washed out or used for other purposes.

HANDLING:..... Avoid contact with eyes, skin and clothing. Do not inhale vapors and fumes. Wash thoroughly after handling. Use only with adequate ventilation. Do not take internally. For industrial use only.

8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS

HAZARDOUS INGREDIENT
N-Methyl-2-pyrrolidone

PEL
10 ppm

TLV-TWA
10 ppm



EXPOSURE CONTROLS:..... Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.



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RESPIRATORY PROTECTION:.....If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA Standard 63 FR 1152, January 8, 1998. Respirator type: Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information. Self-Contained Breathing Apparatus may be required for use in confined or enclosed spaces.

PROTECTIVE CLOTHING:..... **Eye/face protection:** Wear chemical goggles; face shield (if splashing is possible). **Skin protection:** Chemical resistant, impermeable gloves. Gloves should be tested to determine suitability for prolonged contact. Use of impervious apron or chemical suit and chemical resistant boots are recommended.

ADDITIONAL MEASURES:..... Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco. Safety shower and eye wash should be available close to work areas.

9 – PHYSICAL / CHEMICAL PROPERTIES

BOILING POINT:..... > 395.6°F (> 202°C)
FREEZING POINT:..... < -12°F (< -24°C)
FLASHPOINT:195.8°F (91°C)
UPPER FLAME LIMIT (%):.....9.5%
LOWER FLAME LIMIT (%):.....1.3%
VAPOR PRESSURE:ND
VAPOR DENSITY (AIR=1):.....> 1
SPECIFIC GRAVITY:1.03
pH:NA
SOLUBILITY IN WATER:.....Negligible
VOLATILITY
INCLUDING WATER:8.59 pounds per gallon
MOLECULAR WEIGHT:.....99.13 g/mol
EVAPORATION RATE:ND
PHYSICAL STATE:.....Liquid
COLOR:Clear
ODOR:Bland / Amine like



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10 – STABILITY and REACTIVITY

STABILITY:Stable

HAZARDOUS DECOMP.:Will not occur

INCOMPATIBILITY:Oxidizers or Oxidizing Materials.

HAZARDOUS REACTIONS:..... Not expected to be Explosive, Self-Reactive, Self-Heating, or an Organic Peroxide under US GHS Definition(s).

11 – TOXICOLOGICAL INFORMATION

THRESHOLD LIMIT VALUE:.....10 ppm

OSHA PEL:.....10 ppm

LISTED CARCINOGEN:..... This product IS NOT listed in the National Toxicology Program (NTP) Report on Carcinogens (latest edition) or has been found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs (latest editions) or found to be a potential carcinogen by OSHA.

MEDICAL CONDITION

AGGRAVATED:..... Existing dermatitis.

INFORMATION ON ACUTE TOXICOLOGICAL EFFECTS

ORAL

Product:Ingestion can cause gastrointestinal irritation, nausea, vomiting and diarrhea. Ingestion of this product may result in central nervous system depression including headache, weakness, dizziness, loss of coordination and judgement and coma. Small amounts of this product, if aspirated into the lungs, may cause mild to severe pulmonary injury, possibly death. Ingestion of this product may cause diarrhoea & stomach discomfort – not a route of industrial exposure.

DERMAL

Product:Causes skin irritation. May be harmful if absorbed through the skin. Not expected to cause an allergic skin reaction. Because of the high permeability rate of N-methylpyrrolidone in human skin, prolonged exposures should be avoided.

INHALATION

Product:Human occupational exposure has been associated with chronic eye irritation, headaches, and irritant contact dermatitis. Airborne concentrations of 49 to 83 ppm are intolerable.

REPEATED DOSE TOXICITY

Product:Product is a colorless, combustible liquid with bland solvent odor. Chronic exposure is harmful by inhalation, when in contact with the skin and if it is swallowed. Liquid and vapor may be irritating to the eyes, skin and respiratory system. Product may cause central nervous system (CNS) depression characterized by nausea, dizziness, headache, lack of coordination, loss of consciousness and coma.



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SKIN CORROSION / IRRITATION

Product:Repeated and prolonged exposure to concentrated material may cause dermatitis.

SERIOUS EYE DAMAGE / IRRITATION

Product:This product may cause severe burning sensation with temporary irritation and swelling of eyelids. Vapors may also produce eye irritation. Chronic exposure may result in cataracts and reduces visual reaction time.

RESPIRATORY OR SKIN SENSITIZATION

Product:Not expected to be sensitizing based on tests of this product, components, or similar products.

MUTAGENICITY

IN VITRO

Product:No Data Available

IN VIVO

Product:No Data Available

Specified Substance(s)

N-Methyl-2-pyrrolidone

Information as provided by manufacturer

Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.

CARCINOGENICITY

Product:Product is not listed as a cancer causing agent by IARC, NTP, or OSHA.

REPRODUCTIVE TOXICITY

Product:Mutagenicity: This information is not available. Teratogenicity: Solvents in this mixture are suspected of damaging the unborn child.

SPECIFIC TARGET ORGAN TOXICITY – SINGLE EXPOSURE

Product:..... **GENERAL:** Solvent vapors may be irritating to skin and eyes. **INHALATION:** High concentrations of vapor may cause irritation of the respiratory tract, experienced as nasal discomfort and discharge, possibly with chest pain and coughing. **NOTICE:** Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling this product may be harmful or fatal. **EYES:** May cause mild to severe irritation experienced as discomfort or pain, excess blinking and tear production, possibly with marked redness and swelling of the conjunctiva. **SKIN:** Brief contact may cause slight irritation with itching and local redness. Prolonged contact may cause more severe irritation, with discomfort or pain. **SWALLOWING:** May cause headache, dizziness, nausea, vomiting, diarrhea, coma, and death.

SPECIFIC TARGET ORGAN TOXICITY – REPEATED EXPOSURE

Product:The effects of long-term, low-level exposures to this product have not been determined. Safe handling of this material on a long-term basis should emphasize the avoidance of all effects from repetitive acute exposure. This product may aggravate existing eye, skin, and respiratory conditions.

ASPIRATION HAZARD

Product:Droplets of the product aspirated into the lungs through ingestion or vomiting may cause chemical pneumonia.



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OTHER ADVERSE EFFECTS

Product:To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Handle in accordance with good industrial hygiene and safety practice.

12 – ECOLOGICAL INFORMATION

ACUTE TOXICITY

FISH

Product:No information is available on ecotoxicity of this product. Keep product out of sewers and waterways.

AQUATIC INVERTEBRATES

Product:No information is available on ecotoxicity of this product. Keep product out of sewers and waterways.

CHRONIC TOXICITY

FISH

Product:There is no information available at this time for this product. However, a spill may produce significant toxicity to aquatic organisms and ecosystems.

AQUATIC INVERTEBRATES

Product:There is no information available at this time for this product. However, a spill may produce significant toxicity to aquatic organisms and ecosystems.

TOXICITY TO AQUATIC PLANTS

Product:No information is available on ecotoxicity of this product. Keep product out of sewers and waterways.

PERSISTENCE AND DEGRADABILITY

BIODEGRADATION

Product:Readily Biodegradable.

BIOLOGICAL OXYGEN DEMAND

Product:1,100 mg/g NMP

CHEMICAL OXYGEN DEMAND

Product:1,600 mg/g NMP

BOD / COD RATIO

Product:No data available

BIOACCUMULATIVE POTENTIAL

Product:Highly volatile, will partition rapidly to air. Not expected to partition to sediment and wastewater solids.

MOBILITY IN SOIL

Product:Not expected to partition to sediment and wastewater solids.

RESULTS OF PBT AND mPvB ASSESSMENT

Product:Not fulfilling PBT (persistent/bio accumulative/toxic) criteria. Not fulfilling vPvB (very persistent, very bio accumulative) criteria.



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OTHER ADVERSE EFFECTS

Product:No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential or global warming potential) are expected from this product.

13 –DISPOSAL CONSIDERATIONS

WASTE DISPOSAL:.....Treatment, storage, transportation and disposal must be in accordance with Federal, State/Provincial and Local Regulations. Regulations may vary in different locations. Characterization and compliance with applicable laws are the responsibility solely of the generator. Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

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14 – TRANSPORTATION INFORMATION

Important Note: Shipping descriptions may vary based on mode of transport, quantities, package size, and/or origin and destination. Consult your company's Hazardous Materials/Dangerous Goods expert for information specific to your situation.

UN/NA NUMBER:.....None

PROPER SHIPPING NAME:..... Non-Regulated

HAZARD CLASS:.....None

PACKAGING GROUP :.....None

LETTER:.....None



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ENVIRONMENTAL HAZARD:Because of modern treatment methods or method of use of this product, only an insignificant amount of the ingredients reaches the environment. That amount is at such levels as to typically not cause any adverse effects.

REPORTABLE QUANTITY:.....None

15 - REGULATIONS

This Safety Data Sheet conforms to ANSI Z400.5, and to the format requirements and the International Chemical Safety Cards of the Global Harmonizing System. This SDS complies with 29 CFR 1910.1200 (HAZARD COMMUNICATION STANDARD). **IMPORTANT:** Read this SDS before handling & disposing of this product. Pass this information on to employees, customers, & users of this product.

EPA SRA Title III Chemical Listings:

TSCA STATUS:This product is listed on the TSCA inventory. If this product is a blend, all ingredients in the product are listed on the TSCA Inventory List. Any impurities present in this product are exempt from listing.

SECTION 302:.....None

SECTION 304:.....None

SECTION 312:.....None

SARA SECTION 313:.....None

ACUTE:Yes

CHRONIC:No

FIRE:Yes

PRESSURE:.....No

REACTIVE:.....No

CLEAN WATER ACT:.....None

IMDG – International Marine Dangerous Goods Code

Class Non Regulated - Possible Shipping Description(s): Non Regulated

IATA

Class Non Regulated - Possible Shipping Description(s): Non Regulated

DEA Chemical Trafficking Act: ..No

Homeland Security Regulated ..This product does not contain any reportable DHS chemicals.

California Proposition 65.....This product contains a chemical known to the State of California to cause either cancer or to cause birth defects or other reproductive harm.

Component.....N-Methylpyrrolidone (NMP) CAS# 872-50-4

Cal Prop 65 NSRL.....No Significant Risk Level



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US State Right to Know (RTK)

Component.....N-Methylpyrrolidone (NMP) CAS# 872-50-4

MassachusettsYes **

New JerseyYes **

PennsylvaniaYes **

IllinoisYes **

Rhode IslandYes **

****RTK Chemical(s)**N-Methylpyrrolidone (NMP) CAS# 872-50-4

Canada NPRIN-Methylpyrrolidone (NMP) CAS# 872-50-4

DSL (Canadian Domestic Substances List) and CEPA (Canadian Environmental Protection Act): All ingredients in this product are listed on the DSL. Any impurities present in this product are exempt from listing.

AICS / NICNAS (Australian Inventory of Chemical Substances and National Industrial Chemicals Notification and Assessment Scheme): All ingredients in this product are listed on AICS or otherwise complies with NICNAS.

MITI (Japanese Handbook of Existing and New Chemical Substances): All ingredients in this product are listed in the Handbook or has been approved in Japan by new substance notification.

ECL (Korean Toxic Substances Control Act): All ingredients in this product are listed on the Korean inventory or otherwise complies with the Korean Toxic Substances Control Act.KE-04134

Philippines Inventory (PICCS): All ingredients in this product are listed on the Philippine Inventory or otherwise complies with PICCS.

Inventory of Existing Chemical Substances in China: All ingredients in this product are listed on the Inventory of Existing Chemical Substances in China (IECSC).



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16 – OTHER INFORMATION

HMIS*

HEALTH	2
FLAMMABILITY	1
REACTIVITY	0
PERSONAL PROTECTION	H

**HMIS®HAZARD INDEX: 0=Minimal Hazard, 1=Slight Hazard, 2=Moderate Hazard, 3=Serious Hazard, 4=Severe Hazard.*

HMIS® rating involves data interpretations that may vary from company to company. They are intended only for rapid, general identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this material, all the information contained in this SDS and product label must be considered.

ND = No Data, NA = Not Applicable/Not Available, ≤ = Less than or equal to, ≥ = Greater than or equal to

REVISION STATEMENT: Changes have been made throughout this Safety Data Sheet (SDS). Please read the entire document. Prepared according to the OSHA Hazard Communication Standard (29 CFR 1910.1200) and The Globally Harmonized System of Classification and Labeling of Chemicals (GHS) by the Company Health and Risk Assessment Unit.

DISCLAIMER:

Although the information and recommendations set forth herein (hereinafter "Information") are presented in good faith and believed to be correct as of the date hereof, the Company makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving this Safety Data Sheet (SDS) will make their own determination as to its suitability for their intended purposes prior to use. Since the product is within the exclusive control of the user, it is the user's obligation to determine the conditions of safe use of this product. Such conditions should comply with all Federal and State Regulations concerning the Product. It must be recognized that the physical and chemical properties of any product may not be fully understood and that new, possibly hazardous products may arise from reactions between chemicals. The information given in this data sheet is based on our present knowledge and shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship. **NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH INFORMATION REFERS.**

*****This is the last page of this SDS*****