

**Safety Data Sheet**  
1-Methyl-2-pyrrolidone

**SECTION I - IDENTIFICATION**



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**PRODUCT NUMBER:** ..... NMP  
**PRODUCT NAME:** ..... 1-Methyl-2-pyrrolidone  
**CHEMICAL FAMILY:** .....  
**CAS NUMBER:** ..... 872-50-4  
**DATE PREPARED:** ..... 4/24/2014  
**REVISION NUMBER:** ..... 6/4/2015

**SECTION II - HAZARDOUS IDENTIFICATION**

**GHS CLASSIFICATION:**

**Classification**

Flammable Liquids	Category 4
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2A
Specific target organ toxicity, single exposure, R	Category 3
Reproductive Toxicity	Category 1A, 1B

**DANGER!**

**GHS LABEL:**



**Hazard Statements**

H227	Combustible liquid
H315	Causes skin irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation
H360	May damage fertility or the unborn child

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**Precautionary Statements**

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 surface - No smoking.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P264	Wash hands thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P281	Use personal protective equipment as required.
P302+352	IF ON SKIN: Wash with 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 so - continue rinsing.
P308+313	IF exposed or concerned: get medical advice/attention.
P312	Call a POISON CENTER or a 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	Take off contaminated clothing and wash before reuse.
P370+378	In case of fire: Use dry sand, dry chemical, or alcohol-resistant foam for extinction.
P403+233	Store in a well ventilated place. Keep container tightly closed.
P403+235	Store in a well ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/container to an approved waste disposal plant.

**SECTION III - COMPOSITION/INFORMATION ON INGREDIENTS**

The precise composition of this product is proprietary information. In the event of a medical emergency, a complete disclosure will be provided to medical personnel.

Component Name	CAS #	Component%	OSHA PEL	ACGIH TLV
N-Methyl-2-Pyrrolidinone	872-50-4	99.8%	Not Established	Not Established
Pyrrolidinone, dimethyl-	60544-40-3	0.2%	Not Established	Not Established

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**SECTION IV - FIRST AID MEASURES**

- Contact with eyes:** Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses. Get medical attention if symptoms persist.
- Skin contact:** Wash exposed areas with water and mild soap. Remove contaminated clothing immediately and launder before reuse. If irritations persist, seek immediate medical attention.
- Inhalation:** Remove victim to fresh air. Administer oxygen or artificial respiration if breathing is affected or stopped. Seek immediate medical attention if symptoms persist.
- Ingestion:** Give large quantities of water. Never give anything by mouth to an unconscious person.  
Do not induce vomiting unless told to do so by medical personnel or a poison control center.

**SECTION V - FIREFIGHTING MEASURES**

- Suitable Extinguishing Media:** Water fog, foam, CO<sub>2</sub>, dry chemical.
- Special Fire Fighting Procedures** Use self-contained breathing apparatus and full bunker gear in fire areas. Evacuate all unprotected personnel from area. Keep containers cool with water fog to minimize swelling taking care not to spread flames with water used for cooling.
- Unusual Fire Fighting Hazards:** Carbon Oxides.  
Nitrogen Oxides (NO<sub>x</sub>)

**SECTION VI - ACCIDENTAL RELEASE MEASURES**

- Personal Precautions:** Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.  
Keep all sources of ignition and hot metal surfaces away from spill or release. Evacuate all unprotected personnel from the area.
- Environmental Precautions:** Contain spill if it can be done with minimal risk. Prevent liquid from entering drains, sewers or waterways. Notify proper authorities.
- Methods for Cleaning Up:** Using only non-sparking tools and explosion proof equipment, collect spill on absorbent material and put into approved container.  
Absorb spills with the use of a solid absorber (e.g. dry sand, diatomaceous earth).

**SECTION VII - HANDLING AND STORAGE**

- Handling and Storage:**
- Avoid prolonged breathing of mist or vapor. Wash thoroughly after handling. Vent container carefully before opening. Bond and ground all equipment when transferring from one vessel to another. The use of explosion-proof equipment is recommended. "Empty" containers retain residue and/or vapor and may be dangerous. Do not cut, weld, braze solder, drill, grind or expose such containers to heat, flames, sparks, or other ignition sources. Keep containers tightly closed when not in use.
  - Keep container tightly closed and in a well-ventilated place. Keep away from heat, sparks, and open flame.

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**SECTION VIII - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION**

**EXPOSURE LIMITS:**

Component Name	CAS #	OSHA PEL	ACGIH TLV
N-Methyl-2-Pyrrolidinone	872-50-4	Not Established	Not Established
Pyrrolidinone, dimethyl-	60544-40-3	Not Established	Not Established

**Engineering Controls:** Adequate local or mechanical ventilation to reduce vapor or mist to below the PEL or TLV. Mechanical ventilation otherwise recommended if necessary. Emergency eye wash and shower stations.

**Monitoring:** Any clothing or shoes which became contaminated with the product should be removed immediately and thoroughly laundered before wearing again. Follow accepted work and hygiene practices for handling combustible product.

**Personal Protective Equipment (PPE)**

**Eye Protection:** Wear safety glasses with side shields (or goggles). Wear a full-face respirator, if needed.

**Skin Protection:** It is a good industrial hygiene practice to minimize skin contact. Impervious apron and work boots recommend where splashing may occur.

**Respiratory Protection:** Follow the OSHA respirator regulations found in 29 CFR 1910.134

**SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance</b>	Clear, colorless liquid
<b>Odor</b>	Mild, amine-like odor
<b>pH@25°C</b>	8.5-10
<b>Melting/Freezing Point</b>	-23.6°C (-10.48°F)
<b>Flashpoint</b>	91.1°C (196°F) ASTM D93
<b>Specific Gravity</b>	
<b>Solubility</b>	Miscible in water
<b>Auto-Ignition Temperature</b>	245°C (473°F)
<b>Decomposition Temperature</b>	>300°C (>572°F)
<b>VOC Content</b>	-
<b>Odor Threshold</b>	-
<b>Boiling Range</b>	204.3°C (399.74°F)
<b>Evaporation Point</b>	-
<b>Flammable Limits - Upper</b>	9.5%
<b>Flammable Limits - Lower</b>	1.3%
<b>Vapor Pressure</b>	0.32 mbar @ 20°C (68°F)
<b>Vapor Density (Air=1)</b>	-
<b>Viscosity</b>	1.796 mPa·s @ 20°C (68°F)

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**SECTION X - STABILITY AND REACTIVITY**

**Stability:** Stable, under normal conditions of storage and handling.

**Conditions to Avoid:** Extreme heat and ignition sources.

**Hazardous Decomposition/Byproducts:** Oxides of carbon and nitrogen under incomplete combustion conditions.

**Hazardous Polymerization:** Has not been reported

**Polymerization Conditions to Avoid:** None

**SECTION XI - TOXICOLOGICAL INFORMATION**

**Likely Route of Exposure:** Contact and inhalation; ingestion possible.

**Inhalation:** May cause respiratory tract irritation. Inhalation of vapors may cause drowsiness and dizziness.

**Eye Contact:** This material can cause significant eye irritation.

**Skin Contact:** Contact may cause mild skin irritation including redness, burning and drying/cracking of the skin.

**Ingestion:** May cause gastrointestinal irritaion with nausea, vomiting and diarrhea.

**Toxicity:**

Component Name	LD50	LC50
N-Methyl-2-Pyrrolidinone	Oral - Rat - 3,914 mg/kg; Dermal - Rabbit - 8,000 mg/kg	Inhalation - Rat - 4 h - > 5100 ppm
Pyrrolidinone, dimethyl-	Not Established	Not Established

Reproductive Effects	Teratogenicity	Mutagenicity	Embryotoxicity	Sensitization to Product	Synergistic Products
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

**SECTION XII - ECOLOGICAL INFORMATION**

**Ecotoxicity:** This product is not expected to cause environmental harm.

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**Mobility:** Information not available.

**Degradability:** N-Methylpyrrolidone: Readily biodegradable- 73% in 28 days.

**BioAccumulation:** Accumulation in organisms is not to be expected.

**SECTION XIII - WASTE DISPOSAL CONSIDERATIONS**

Dispose in accordance with local, state and federal environmental regulations.

**SECTION XIV - TRANSPORT INFORMATION**

**DOT SHIPPING INFORMATION**

**Proper Shipping Name:** Combustible Liquid, n.o.s.

**Contains:** N-Methylpyrrolidone

**Hazard Class and Label:** 3

**Identification Number:** NA 1993

**Packaging Group:** III

\*According to CFR 173.155 - NMP is Not classified as a Hazardous substance in containers less than 119 Gallons.

**SECTION XV - REGULATORY INFORMATION**

**TSCA STATUS:**..... The components of this product are listed on the TSCA Inventory

**SARA TITLE III SECTION 302/304 EXTREMELY HAZARDOUS SUBSTANCE:**

No chemicals in this material are subject to the reporting requirements.

**SARA TITLE III SECTION 311/312 HAZARD CATEGORIZATION:**

Acute	Chronic	Fire	Pressure	Reactive
X	X	X		

**SARA TITLE III SECTION 313 SUPPLIER INFORMATION:**

No chemicals in this material are subject to the reporting requirements.

**CERCLA SECTION 102(a) HAZARDOUS SUBSTANCE:**

No chemicals in this material are subject to the reporting requirements.

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**SECTION XVI - OTHER INFORMATION**

**HMIS Health:** ..... 2

**HMIS Flammability:** ..... 2

**HMIS Reactivity:** ..... 0

**Additional:**

**Specification Information**

**Department issuing data sheet:** Compliance

**Email address:** compliance@transcheminc.com

**Training necessary:** Follow all Federal, State and local regulations.

**Disclaimer:**

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