
Material Safety Data Sheet

Product Name	N-Methyl-2-pyrrolidinone
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**SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF
THE COMPANY/UNDERTAKING**

1.1. Product Identification:**Product Name:** N-Methyl-2-pyrrolidinone**Synonyms:** N-Methyl Pyrrolidone**CAS-No:** 872-50-4**EC-No.:** 212-828-1**Catalog Codes:** 10970, 20970, 30970, 90970**RTECS:** UY5790000**TSCA:** TSCA 8(b) inventory: NA**CI#:** Not Available**Molecular Formula:** C₅H₉NO**REACH Registration No:** Not Available**1.2. Relevant identified uses of the substance or mixture and uses advised against:****Identified Uses:** Laboratory Chemicals, Manufacture of substances**1.3. Details of the supplier of the safety data sheet:**

- **Company** **Finar Limited**
184-186/P, Chacharwadi Vasna,
Sarkhej-Bavla Highway,
Ta: Sanand, Dist.: Ahmedabad,
Email: info@finarchemicals.com
Web: www.finarchemicals.com

- **E-mail Address** safety@finarchemicals.com;
info@finarchemicals.com

1.4. Emergency Telephone Number:

- For Emergency Contact No: +91 - 2717 - 616 717
- Registered office No: +91 - 79 - 40040085

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SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture:

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Skin irritation - (Category 2), H315

Eye irritation - (Category 2), H319

Reproductive toxicity - (Category 1B), H360D

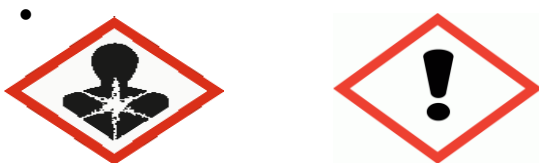
Specific target organ toxicity - Single exposure (Category 3), Respiratory system, H335

For the full text of the H-Statements mentioned in this Section, see Section 16.

Environmental Hazards: Not Classified

2.2 Label Elements:

- **Hazard Pictograms** :



- **Signal Word** : Danger

- **Hazard Statements** :

H315 : Causes skin irritation

H319 : Causes serious eye irritation.

H335 : May cause respiratory irritation

H360D : May damage the unborn child

- **Precautionary Statements - Prevention:**

P201 : Obtain special instructions before use

P280 : Wear protective gloves/ protective clothing/ eye protection/ face protection

P305 + P351 + P338 : IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

P308 + P313 : IF exposed or concerned: Get medical advice/ attention.

- **Supplemental Hazard Statement** - None

2.3 Other Hazards:

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

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SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances: N-Methyl-2-pyrrolidinone CAS No. – 872-50-4

3.2 Mixtures:

Component	CAS-No	EC-No.	% by Weight
N-Methyl-2-pyrrolidinone	872-50-4	212-828-1	< 100%

SECTION 4: FIRST AID MEASURES

4.1 Description of First Aid Measures:

General information : Consult a physician. Show this safety data sheet to the doctor in attendance.

Eye Contact: Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.

Skin Contact: Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops.

Serious Skin Contact: Not Available

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Serious inhalation: Not Available

Ingestion: Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.

Swallowing: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed:

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed:

Not Available

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SECTION 5: FIRE FIGHTING MEASURES**5.1 Extinguishing media****Suitable extinguishing media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media: Do NOT use water jet.

5.2 Special hazards arising from the substance or mixture

Carbon oxides, Nitrogen oxides (NO_x)

5.3 Special Protective Equipment for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further Information (Precautions)

Use water spray to cool unopened containers.

SECTION 6: ACCIDENTAL RELEASE MEASURES**6.1 Personal precautions, protective equipment and emergency procedures:**

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Avoid breathing dust.

For personal protection see section 8.

6.2 Environmental precautions:

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and material for containment and cleaning up:

Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

6.4 Reference to other sections:

Disposal considerations: see section 13

SECTION 7: HANDLING AND STORAGE**7.1 Precautions for Safe Handling**

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Avoid exposure -obtain special instructions before use.

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Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition - No smoking. Take measures to prevent the buildup of electrostatic charge.

For precautions see section 2.2.

7.2 **Conditions for safe storage, including any incompatibilities:**

Store it in cool place. Keep container tightly closed in a dry and well-ventilated place.

7.3 **Specific end use(s):**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 **Control Parameters:**

Components with workplace control parameters

8.2 **Exposure Controls:**

Appropriate Engineering Controls: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal Protective Equipment:

Eye/face protection: Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

- **Skin protection:** Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

Body Protection: Impervious clothing, the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

- **Respiratory Protection:** Where risk assessment shows air-purifying respirators are appropriate use a full face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

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- **Control of Environmental Exposure:** Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

Physical state and appearance: Liquid, colorless

Odour: Amine like

Odour Threshold: Not Available

Taste: Not Available

Color: Colourless or Light Yellow

pH (1% soln/Water): 7.7 – 8.0

Boiling Point: 202 °C / 395.6 °F @ 760 mmHg

Flash Point: 91 °C / 195.8 °F

Molecular Weight: 99.13 g/mol

Melting Point: -24 °C / -11.2 °F

Critical Temperature: 451°C (843.8°F)

Specific Gravity: 1.026 (Water = 1)

Vapor Pressure: 0 kPa (@ 20°C)

Vapor Density: 3.4 (Air = 1)

Vapor Pressure: 0.7 mbar @ 25 °C

Solubility: miscible

Autoignition Temperature: 346 °C / 654.8 °F

Viscosity: 1.67 mPa s at 20 °C

9.2 Other Information:

Not Available

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity: No data available

10.2 Chemical Stability: Hygroscopic, Air Sensitive, Light Sensitive

10.3 Possibility of Hazardous Reactions: Not Available

10.4 Conditions to Avoid: Heat, flames and sparks.

10.5 Incompatible Materials: Strong acids, Strong oxidizing agents, Strong reducing agents

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10.6 Hazardous Decomposition Products: Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NOx)
 In the event of fire: see section 5
 Other decomposition products - No data available

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects:

Product Information:

Toxicology data for the components:

LD50 Oral	LD50 Dermal	LC50 Inhalation
3914 mg/kg (Rat)	8 g/kg (Rabbit)	> 5.1 mg/L (Rat) 4 h

Toxicologically Synergistic Products: Not Available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation: Irritating to eyes, respiratory system and skin

Sensitization: No information available

Carcinogenicity: The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
1-Methyl-2-pyrrolidone	872-50-4	Not listed	Not listed	Not listed	Not listed	Not listed

Mutagenic Effects: Mutagenic effects have occurred in microorganisms.

Reproductive Effects: Experiments have shown reproductive toxicity effects on laboratory animals.

Developmental Effects: Substances known to cause developmental toxicity in humans.

May cause harm to the unborn child.

Teratogenicity: Teratogenic effects have occurred in experimental animals.

STOT - single exposure: Respiratory system

STOT - repeated exposure: Kidney Liver spleen Blood

Aspiration hazard: No information available

Symptoms / effects, both acute and delayed: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting

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Endocrine Disruptor Information: No information available

Other Adverse Effects: Tumorigenic effects have been reported in experimental animals.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity:

Toxicity to fish: static test LC50 - Oncorhynchus mykiss (rainbow trout) - > 500 mg/l - 96 h

Remarks: (ECHA)

LC50 - other fish - 4.000 mg/l - 96 h

LC50 - Leuciscus idus (Golden orfe) - > 500 mg/l - 96 h

Toxicity to daphnia and other aquatic invertebrates:

Static test EC50 - Daphnia magna (Water flea) - > 1.000 mg/l - 24 h (DIN 38412)

EC50 - Daphnia magna (Water flea) - > 1.000 mg/l - 24 h

Static test EC50 - Palaeomonetes vulgaris (Grass shrimp) - 1.107 mg/l - 96 h (EPA-660/3-75-009)

Toxicity to algae: static test EC50 - Desmodesmus subspicatus (green algae) - 672,8 mg/l - 72 h
(DIN 38412)

Toxicity to bacteria: static test EC50 - activated sludge - > 600 mg/l - 0,5 h (ISO 8192)

LC50 - Bacteria - > 9.000 mg/l

LC50 - Bacteria - > 9.000 mg/l

EC10 - Pseudomonas putida - 9.000 mg/l - 17 h

Remarks: (Lit.)

Static test EC10 - activated sludge - 100 mg/l - 48 h

12.2 Persistence and degradability Persistence:

Biodegradability: Result: 90 % - Readily biodegradable.

aerobic - Exposure time 28 d

Result: 73 % - Readily biodegradable.

(OECD Test Guideline 301C)

Biochemical Oxygen Demand (BOD): Remarks: No data available

1,100 mg/g Remarks: (Lit.)

Chemical Oxygen Demand (COD): 1,600 mg/g Remarks: (Lit.)

12.3 Bio Accumulative Potential:

Not Available

12.4 Mobility in soil: Not Available

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12.5 Results of PBT and vPvB Assessment:

This substance/mixture contains no components considered to be either persistent, Bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other Adverse Effects:

Not Available

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste Disposal Methods:

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification

SECTION 14: TRANSPORT INFORMATION

	Land Transport (ADR/RID)	Air Transport (IATA)	Sea Transport (IMDG)
14.1 UN number	Not Regulated	Not Regulated	Not Regulated
14.2 Proper shipping name			
14.3 Class			
14.4 Packing group			
14.5 Environmentally hazardous			
14.6 Special precautions for user			

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SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

Authorisations and/or restrictions on use

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59) : N-methyl-2-pyrrolidone

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : N-methyl-2-pyrrolidone

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out

SECTION 16: OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.

- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H335 May cause respiratory irritation.
- H360D May damage the unborn child.

References: Not available

Created: 04/02/2020

- **Disclaimer:**

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