

1. IDENTIFICATION

Product name: N-Methyl-2-pyrrolidone (1-Methyl-2-pyrrolidone)
CAS: 872-50-4
Company: MIT-IVY INDUSTRY CO.,LTD
Address: 2-1402,OFFICE BUILDING 2, COMMERCIAL INNER STREET AND OFFICE 1,
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2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

PHYSICAL HAZARDS

Not classified

HEALTH HAZARDS

Acute toxicity (Oral)

Category 5

Skin corrosion/irritation

Category 2

Serious eye damage/eye irritation

Category 2A

Reproductive toxicity

Category 1B

Specific target organ toxicity

Respiratory tract irritation, Narcotic effects

- Single exposure [Category 3]

Specific target organ toxicity

Liver Bone marrow Nervous system Lung

- Repeated exposure [Category 2]

ENVIRONMENTAL HAZARDS

Not classified

Label elements

Pictograms or hazard symbols



Signal word

Danger

Hazard statements

May be harmful if swallowed
 Causes skin irritation
 Causes serious eye irritation
 May damage fertility or the unborn child
 May cause damage to organs through prolonged or repeated exposure : Liver Bone marrow Nervous system Lung
 May cause respiratory irritation
 May cause drowsiness or dizziness

Precautionary statements

[Prevention]

Obtain special instructions before use.
 Do not handle until all safety precautions have been read and understood.
 Do not breathe mist, vapors or spray.
 Use only outdoors or in a well-ventilated area.
 Wash hands and face thoroughly after handling.

[Response]

Wear protective gloves, protective clothing, face protection.
 IF ON SKIN: Wash with plenty of water. If skin irritation occurs: Get medical advice or attention. Take off contaminated clothing and wash it before reuse.

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice or attention.

[Storage]

IF exposed or concerned: Get medical advice or attention.

Store in a well-ventilated place. Keep container tightly closed.

Store locked up.

[Disposal]

Dispose of contents and container in accordance with local, regional, national regulations.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/mixture:	Substance
Components:	1-Methyl-2-pyrrolidone
Percent:	>99.0%(GC)
CAS RN:	872-50-4
Synonyms:	1-Methyl-2-pyrrolidinone , NMP
Chemical Formula:	C ₅ H ₉ NO

4. FIRST AID MEASURES

Inhalation:	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention.
Skin contact:	Remove/Take off immediately all contaminated clothing. Gently wash with plenty of soap and water. Get medical advice/attention.
Eye contact:	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Get medical advice/attention.
Ingestion:	Get medical advice/attention. Rinse mouth.
Protection of first-aiders:	A rescuer should wear personal protective equipment, such as rubber gloves and air-tight goggles.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media:	Dry chemical, foam, water in large amounts, carbon dioxide.
Specific hazards arising from the chemical:	Take care as it may decompose upon combustion or in high temperatures to generate poisonous fume.
Precautions for firefighters:	Fire-extinguishing work is done from the windward and the suitable fire-extinguishing method according to the surrounding situation is used. Uninvolved persons should evacuate to a safe place. In case of fire in the surroundings: Remove movable containers if safe to do so.
Special protective equipment for firefighters:	When extinguishing fire, be sure to wear personal protective equipment

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:	Use personal protective equipment. Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Entry to non-involved personnel should be controlled around the leakage area by roping off, etc.
Environmental precautions:	Prevent product from entering drains.
Methods and materials for containment and cleaning up:	Absorb spilled material in a suitable absorbent (e.g. rag, dry sand, earth, saw-dust). In case of large amount of spillage, contain a spill by bunding. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical measures: Handling is performed in a well ventilated place. Wear suitable protective equipment. Prevent generation of vapour or mist. Wash hands and face thoroughly after handling.
Use a closed system if possible. Use a ventilation, local exhaust if vapour or aerosol will be generated.

Advice on safe handling: Avoid all contact!

Conditions for safe storage, including any incompatibilities

Storage conditions: Keep container tightly closed. Store in a cool, dark and well-ventilated place.
Store under inert gas.
Protect from moisture.
Store locked up.
Store away from incompatible materials such as oxidizing agents.
Light-sensitive, Hygroscopic

Packaging material: Comply with laws.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering controls: Install a closed system or local exhaust. Also install safety shower and eye bath.

Exposure limits:

Personal protective equipment

Respiratory protection: Half or full facepiece respirator, self-contained breathing apparatus(SCBA), supplied air respirator, etc. Use respirators approved under appropriate government standards and follow local and national regulations.

Hand protection: Impervious gloves.

Eye protection: Safety goggles. A face-shield, if the situation requires.

Skin and body protection: Impervious protective clothing. Protective boots, if the situation requires.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state (20°C): Liquid
Form: Clear
Colour: Colorless - Slightly pale yellow
Odour: Mild Amine-like
pH: 7.7 - 8
Melting point/freezing point: -24°C
Boiling point/range: 202°C
Flash point: 95°C
Flammability or explosive limits:
Lower: 1%
Upper: 3.9%
Vapour pressure: 66Pa/25°C
Vapour density: 3.4
Relative density: 1.03
Solubility(ies):
[Water] Miscible
[Other solvents]
Miscible: Ether, Alcohols, Benzene, Acetone, Chloroform, Ethyl acetate
Log Pow: -0.40
Autoignition temperature: 270°C
Dynamic Viscosity: 1.32mPa·s (40°C)

10. STABILITY AND REACTIVITY

Chemical stability: Stable under proper conditions.

Possibility of hazardous reactions: No special reactivity has been reported.

Incompatible materials: Oxidizing agents, Strong acids, Strong bases, Reducing agents

Hazardous decomposition products: Carbon dioxide, Carbon monoxide, Nitrogen oxides (NOx)

11. TOXICOLOGICAL INFORMATION

Acute Toxicity:	ori-rat LD50:3914 mg/kg skn-rbt LD50:8 g/kg ihl-rat LCLo:1 g/m ³ ipr-rat LD50:2472 mg/kg
Skin corrosion/irritation:	No data available
Serious eye damage/irritation:	eye-rbt 100 mg MOD
Germ cell mutagenicity:	sln-smc 154 mmol/L
Carcinogenicity:	ori-mus TDLo:784 g/kg/78W-C
IARC =	No data available
NTP =	No data available
Reproductive toxicity:	ihl-rat TDLo:116 ppm/6H (multigenerations) ori-rat TDLo:9700 mg/kg (6-15D preg)
RTECS Number:	UY5790000

12. ECOLOGICAL INFORMATION

Ecotoxicity:	
Fish:	96h LC50:832 mg/L (Lepomis macrochirus)
Crustacea:	No data available
Algae:	No data available
Persistence / degradability:	73 % (NO ₂), 94 % (NH ₃)(by BOD) , 100 % (by GC) , 96 % (by TOC)
Bioaccumulative potential(BCF):	3
Mobility in soil	
Log Pow:	-0.40
Soil adsorption (Koc):	4.6
Henry's Law (PaM³/mol):	3.2 x 10 ⁻⁴

13. DISPOSAL CONSIDERATIONS

Recycle to process, if possible. Consult your local regional authorities. You may be able to burn in a chemical incinerator equipped with an afterburner and scrubber system. Observe all federal, state and local regulations when disposing of the substance.

14. TRANSPORT INFORMATION

Hazards Class:	Does not correspond to the classification standard of the United Nations
UN-No:	Not listed

15. REGULATORY INFORMATION

Regulations on the Control over Safety of Dangerous Chemicals (State Council announces on January 26, 2002 and revised on February 16,2011): Safe use and production, the storage of a dangerous chemical, transport, loading and unloading were prescribed.

16. OTHER INFORMATION**The reference company name of written contents**

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This SDS was prepared sincerely on the basis of the information we could obtained, however, any warranty shall not be given regarding the data contained and the assessment of hazards and toxicity. Prior to use, please investigate not only the hazards and toxicity information but also the laws and regulations of the organization, area and country where the products are to be used, which shall be given the first priority. The products are supposed to be used promptly after purchase in consideration of safety. Some new information or amendments may be added afterwards. If the products are to be used far behind the expected time of use or you have any questions, please feel free to contact us. The stated cautions are for normal handling only. In case of special handling, sufficient care should be taken, in addition to the safety measures suitable for the situation. All chemical products should be treated with the recognition of "having unknown hazards and toxicity", which differ greatly depending on the conditions and handling when in use and/or the conditions and duration of storage. The products must be handled only by those who are familiar with specialized knowledge and have experience or under the guidance of those specialists throughout use from opening to storage and disposal. Safe usage conditions shall be set up on each user's own responsibility.