

MATERIAL SAFETY DATA SHEET

Ref. No. : LS3538

Issue date : October 2003

Issued by LABSCAN ASIA

PRODUCT NAME : n-METHYL-2-PYRROLIDONE

COMPANY DETAILS

Company Name	LABSCAN ASIA CO., LTD.
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HAZARDS IDENTIFICATION

Product Name	n-METHYL-2-PYRROLIDONE		
Proper Shipping Name	n-METHYLPYRROLIDONE		
Other Names	<u>Name</u>	<u>Grade</u>	<u>Labscan Code</u>
	n-METHYL-2-PYRROLIDONE	AR	A3538
	n-METHYL-2-PYRROLIDONE	HPLC	C2538
	n-METHYL-2-PYRROLIDONE	ANHYDRO	H6538
	n-METHYL-2-PYRROLIDONE	GPR	G4538
UN No.	Not regulated		
D.G. Class	Not regulated		
Packing Group	Not regulated		
Hazchem Code	Not regulated		
Poisons schedule	Not regulated		
EEC-No	606-021-00-7		
Class	Xi; R36/38		
CAS-No	872-50-4		
Weight	100%		
Most important hazards	Irritating to eye, respiratory system and skin.		
Specific hazards	Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the products.		

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FIRST AID

General advice: Show this safety data sheet to the doctor in attendance.

Inhalation: Move to fresh air in case of accidental inhalation of vapors. Keep patient warm. In case of shortness of breath, give oxygen. Apply artificial respiration only if patient is not breathing or under medical supervision. No artificial aspiration mount – to – mouth or mouth to nose. Use suitable instruments / apparatus. Consult a physician after significant exposure.

Skin contact: Remove contaminated clothing and wash affected skin with soap and water.

Eye contact: Wash contaminated clothing before re-use. If skin irritation persists, call a physician.

Eye contact: If the substance has got into the eyes, immediately wash out with plenty of water until medical assistance is provided. Keep eye wide open while rinsing. Consult a physician for severe cases.

Ingestion: Clean mouth with water and drink afterwards plenty of water. Do not induce vomiting without medical advice. If signs of poisoning appear, treat as for inhalation. Consult a physician for severe cases.

Never give anything by mouth to an unconscious person.

FIRE-FIGHTING MEASURES

Suitable extinguishing media:
Extinguish with carbon dioxide (CO₂), dry chemical, foam or water spray,

Extinguishing media which must not be used for safety reasons:
Do not use a solid water stream as it may scatter and spread fire.

Specific hazards:
Vapors are heavier than air and may spread along floors. Flash back possible over considerable distance. Burning produces obnoxious and toxic fumes; carbon oxides / nitrogen oxides (Nox).

Special protective equipment for firefighters:
Wear a positive-pressure supplied-air respirator / full protective flameproof clothing.

Specific methods:
Standard procedure for chemical fires.
Water mist may be used to cool closed containers.

Hazchem Code: Not regulated

ACCIDENTAL RELEASE MEASURES

Personal precautions: Evacuate personnel to safe areas. Avoid contact with skin, eyes and clothing. Remove all sources of ignition. Shut off leaks if without risk. Keep people away from and upwind of spill/leak. Take precautionary measures against static discharges.

Environmental precautions: Contain leaking liquid with sand or earth, consult an expert. Prevent liquid entering sewers, basements and work pits; vapor may create explosive and toxic atmosphere. If substance has entered a water course or sewer or contaminated soil or vegetation, advise police.

Methods for cleaning up: Absorb in earth or sand or other suitable material. Do not absorb in sawdust or other combustible material. Transfer to covered steel drums. Contact waste disposal services. Dispose of a special waste in compliance with local and national regulation.

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SAFE HANDLING AND STORAGE INFORMATION

Handling: Use only in areas provided with appropriate exhaust ventilation. Do not breathe vapors or spray mist. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. Avoid contact with skin, eyes and clothing.

Storage: Keep container tightly closed in a dry and well-ventilated place. Store in a place accessible by authorized persons only. Keep away from heat and sources of ignition. Electrical equipment should be protected to the appropriate standard. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors).

EXPOSURE CONTROLS / PERSONAL PROTECTION

Chemical Name:
n-METHYL-2-PYRROLIDONE

National occupational exposure limits:
IRL OEL: 100 ppm (400 mg/m³) TLV

Engineering measures to reduce exposure:

The product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Ventilation hoods and fans required when working with organic solvents or in hot melt applications.

Personal protection equipment:

- Respiratory protection:** In case of insufficient ventilation wear suitable respiratory equipment.
- Hand protection:** Butylrubber / Neoprene gloves.
- Eye protection:** Goggles giving complete protection to eyes.
- Skin and body protection:** Chemical-proof suit / flame retardant antistatic protective clothing, heavy duty work shoes.

Hygiene measures:

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Wash hands and face before breaks and immediately after handling the products.

PHYSICAL DATA AND OTHER PROPERTIES

Formula	C ₅ H ₉ NO
Form	Liquid,
Colour	Colourless,
Odour	Mild amine-like
pH	(20°C) 8.5-10 (100 g/l H ₂ O)
Boiling point/range	204.3°C
Melting point/range	-23.6°C
Flash point	91°C
Autoignition temperature	245°C
Explosion limits	lower 1.3 vol. % Upper 9.5 vol. %
Relative density	(20°C) >= 1.025 <= 1.029
Partition coefficient (n-octanol/water)	log P _{ow} = -0.46
Viscosity	(20°C) 1.796 mPa.s

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STABILITY AND REACTIVITY

Stability: Stable at normal conditions.
Stable under recommended storage conditions.

Conditions to avoid: Prolonged heating at temperatures above 200°C.
Take precautionary measures against static discharges.

Materials to avoid: Exothermic reaction with strong acids / strong bases.

Hazardous decomposition products: Burning produces obnoxious and toxic fumes, carbon oxide nitrogen oxides (Nox).

TOXICOLOGICAL INFORMATION

Acute toxicity:

Inhalation:
LC50/inhalation/4h/rat = 5.1 mg/l
Inhalation of high vapor concentrations may cause symptoms like headache, dizziness , tiredness, nausea and vomiting.

Skin contact:
LD50/dermal/rabbit = 8000 mg/kg
Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product.

Eye contact:
Irritant effect on eyes. May cause irreversible eye damage.

Ingestion:
LD50/oral/rat = 3600 mg/kg
Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Sensitization: Not sensitizing.

Long term toxicity: No data is available on the product itself.

Chronic toxicity: Danger of serious damage to health by prolonged exposure.

ECOLOGICAL INFORMATION

Mobility: Completely miscible with water.

Persistence / degradability: According to the results of tests of biodegradability this product is considered as being readily bio degradable > 90%.

Bio accumulation: Biochemical oxygen demand within 5 days (BOD5) = 1100 mg/ml.
Chemical oxygen demand (COD) = 1600 mg/ml

Ecotoxicity
Toxicity to fish : LC50/96h/goldfish = 4000 mg/l.
Toxicity to daphnia : LC50/24h/daphnia = > 1000 mg/l.
Toxicity to algae : EC/LC50/72 h : => 500 mg/l.

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DISPOSAL CONSIDERATIONS

Waste from residues / unused products:

If recycling is not practicable, dispose of in compliance with local regulations.

Can be incinerated, when in compliance with local regulations.

Contaminated packaging:

Empty containers should be taken for local recycling, recovery or waste disposal.

Empty containers can be land filled after cleaning, when in compliance with local regulations.

TRANSPORT INFORMATION

UN-No.....Not regulated

Marine pollutant.....not applicable

ADR/RID

Class.....Not regulated

IMO

Class.....Not regulated

ICAO

Class.....Not regulated

REGULATORY INFORMATION

Classification according to European directive on classification of hazardous preparations 90/492/EEC

Contains n-Methylpyrrolidone

Symbol(s) Xi - Irritant



Hazard

R – phrase(s) R36/38 - Irritating to eyes and skin.

S – phrase(s) S41 - In case of fire and/or explosion do not breathe fumes.

Recommended restrictions: Take notice of labels and material safety data sheets for the working chemicals. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors).

Recommended use: General purpose solvent.

CONTACT POINT

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