



Infosafe No™	3CHFB	Issue Date : April 2018	RE-ISSUED by CHEMSUPP
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Product Name : **n-METHYL-2-PYRROLIDONE**

Classified as hazardous

**1. Identification**

**GHS Product Identifier** n-METHYL-2-PYRROLIDONE

**Product Code** MA108

**Company Name** CHEM-SUPPLY PTY LTD (ABN 19 008 264 211)

**Address** 38 - 50 Bedford Street GILLMAN  
SA 5013 Australia

**Telephone/Fax Number** Tel: (08) 8440-2000  
Fax: (08) 8440-2001

**Recommended use of the chemical and restrictions on use** Laboratory reagent.

**Other Names****Name****Product Code**

1-METHYL-2-PYRROLIDONE

**Other Information**

EMERGENCY CONTACT NUMBER: +61 08 8440 2000  
Business hours: 8:30am to 5:00pm, Monday to Friday.

Chem-Supply Pty Ltd does not warrant that this product is suitable for any use or purpose. The user must ascertain the suitability of the product before use or application intended purpose. Preliminary testing of the product before use or application is recommended. Any reliance or purported reliance upon Chem-Supply Pty Ltd with respect to any skill or judgement or advice in relation to the suitability of this product of any purpose is disclaimed. Except to the extent prohibited at law, any condition implied by any statute as to the merchantable quality of this product or fitness for any purpose is hereby excluded. This product is not sold by description. Where the provisions of Part V, Division 2 of the Trade Practices Act apply, the liability of Chem-Supply Pty Ltd is limited to the replacement of supply of equivalent goods or payment of the cost of replacing the goods or acquiring equivalent goods.

**2. Hazard Identification**

**GHS classification of the substance/mixture** Eye Damage/Irritation: Category 2  
Skin Corrosion/Irritation: Category 2  
Specific Target Organ Toxicity Single Exposure Category 3 (respiratory tract irritation)  
Toxic to Reproduction: Category 2

**Signal Word (s)** DANGER

**Hazard Statement (s)** H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H335 May cause respiratory irritation.  
H360 May damage fertility or the unborn child.

**Pictogram (s)** Health hazard, Exclamation mark**Precautionary statement – Prevention**

P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P264 Wash 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.

**Precautionary statement – Response**

P302+P352 IF ON SKIN: Wash with plenty of soap and water.  
P332+P313 If skin irritation occurs: Get medical advice/attention.  
P362 Take off contaminated clothing and wash before reuse.  
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
P337+P313 If eye irritation persists: Get medical advice/attention.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.



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<b>Precautionary statement – Storage</b>	P312 Call a POISON CENTER or doctor/physician if you feel unwell. P308+P313 IF exposed or concerned: Get medical advice/attention.
<b>Precautionary statement – Disposal</b>	P403+P233 Store in a well-ventilated place. Keep container tightly closed. P405 Store locked up. P501 Dispose of contents/container according to local, state and federal regulations.

**3. Composition/information on ingredients**

<b>Chemical Characterization</b>	Liquid				
<b>Ingredients</b>	<u>Name</u>	<u>CAS</u>	<u>Proportion</u>	<u>Hazard Symbol</u>	<u>Risk Phrase</u>
	n-Methyl-1-pyrrolidine	872-50-4	100 %		

**4. First-aid measures**

<b>Inhalation</b>	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 mouth to mouth or mouth to nose. Use suitable instruments/apparatus.
<b>Ingestion</b>	Rinse mouth. Do not induce vomiting. Immediately make victim drink water (two glasses at the most) 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 mouth to mouth or mouth to nose. Use suitable instruments/apparatus. Obtain medical attention. Never give anything by mouth to an unconscious person.
<b>Skin</b>	Remove contaminated clothing and wash affected skin with soap and water. If signs of poisoning appear, treat as for inhalation. Obtain medical attention. Wash contaminated clothing before reuse. Contaminated combustible material, e.g. clothing ignites more readily and burns fiercely.
<b>Eye contact</b>	If the substance has got into the eyes, immediately wash out with plenty of water at least 15 minutes. Obtain medical attention.
<b>First Aid Facilities</b>	Maintain eyewash fountain and safety shower in work area.
<b>Advice to Doctor</b>	Treat symptomatically based on judgement of doctor and individual reactions of the patient.
<b>Protection for First Aiders</b>	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
<b>Other Information</b>	For advice, contact a Poisons Information Centre (Phone eg Australia 13 1126; New Zealand 0800 764 766) or a doctor at once.

**5. Fire-fighting measures**

<b>Hazards from Combustion Products</b>	Irritating and highly toxic gases, fumes and vapours.
<b>Specific Methods</b>	Use dry chemical, alcohol-resistant foam, CO2 or water spray.
<b>Specific hazards arising from the chemical</b>	Vapors may form explosive mixture with air. Flash back possible over considerable distance.
<b>Precautions in connection with Fire</b>	Wear SCBA and chemical splash suit. Fully-encapsulating, gas-tight suits should be worn for maximum protection. Structural firefighter's uniform is NOT effective for these materials.

**6. Accidental release measures**

<b>Methods and materials for containment and cleaning up</b>	Spillage: May react with combustible substances creating fire or explosion hazard and formation of toxic fumes. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Soak up with inert absorbent material (e.g. sand, silica gel). Prevent liquid entering sewers, basements and workpits; vapor may create explosive atmosphere. Transfer to covered steel drums. Dispose of promptly.
<b>Personal Precautions</b>	Evacuate personnel to safe areas. Do not breathe vapors or spray mist. Wear a positive-pressure supplied-air respirator, flame retardant antistatic protective clothing. Shut off leaks if without risk. Keep people away from and upwind of spill/leak.
<b>Personal Protection</b>	Wear protective clothing specified for normal operations (see Section 8)



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**Clean-up Methods - Small Spillages** Absorb or contain liquid with sand, earth or spill control material. Shovel up using non sparking tools and place in a labelled, sealable container for subsequent safe disposal. Put leaking containers in a labelled drum or overdrum.

**Environmental Precautions** Contain or absorb leaking liquid with sand or earth, consults an expert. Prevent liquid entering sewers, basements and workpits. If substance has entered a water course or sewer or contaminated soil, inform respective authorities.

**7. Handling and storage**

**Precautions for Safe Handling** Evacuate personnel to safe areas. Do not breathe vapors or spray mist. Wear a positive-pressure supplied-air respirator, flame retardant antistatic protective clothing. Shut off leaks if without risk. Keep people away from and upwind of spill/leak.

**Conditions for safe storage, including any incompatibilities** Spillage: May react with combustible substances creating fire or explosion hazard and formation of toxic fumes. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Soak up with inert absorbent material (e.g. sand, silica gel). Prevent liquid entering sewers, basements and workpits; vapor may create explosive atmosphere. Transfer to covered steel drums. Dispose of promptly.

**8. Exposure controls/personal protection**

Occupational exposure limit values	Name	STEL		TWA		Footnote
		mg/m3	ppm	mg/m3	ppm	
	n-Methyl-1-pyrrolidine	309	75	103	25	
<b>Other Exposure Information</b>	A time weighted average (TWA) has been established for n-Methyl-1-pyrrolidine (Safe Work Australia) of 25 ppm, 103 mg/m3. The corresponding STEL (Short Term Exposure Limit) is 75 mg/m3, 309 mg/m3. The STEL is an exposure value that should not be exceeded for more than 15 minutes and should not be repeated for more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The exposure value at the TWA is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week.					
<b>Appropriate engineering controls</b>	In industrial situations maintain the concentrations values below the TWA. This may be achieved by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods. These methods should be used in preference to personal protective equipment.					
<b>Respiratory Protection</b>	Where ventilation is not adequate, respiratory protection may be required. Avoid breathing dust, vapours or mists. Respiratory protection should comply with AS 1716 - Selection, Use and Maintenance of Respiratory Protective Devices. Filter capacity and respirator type depends on exposure levels. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.					
<b>Eye Protection</b>	The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate. Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336.					
<b>Hand Protection</b>	Hand protection should comply with AS 2161, Occupational protective gloves - Selection, use and maintenance. - Full contact wears gloves from butyl rubber material. - Splash contact wears gloves from natural rubber material. The select protective gloves have to satisfy the specifications of EU Directive 89/686 EEC and standard EN 374 derived from it. Avoid skin contact when removing gloves from hands, do not touch the gloves outer surface. Dispose of gloves as hazardous waste.					
<b>Personal Protective Equipment</b>	Final choice of personal protective equipment will depend on individual circumstances and/or according to risk assessments undertaken. The selection of PPE is dependent on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods, and environmental factors.					
<b>Footwear</b>	Safety boots in industrial situations is advisory, foot protection should comply with AS 2210, Occupational protective footwear - Guide to selection, care and use.					
<b>Body Protection</b>	Clean clothing or protective clothing should be worn. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.					
<b>Hygiene Measures</b>	Always wash hands before smoking, eating or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.					

**9. Physical and chemical properties**



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<b>Form</b>	Liquid
<b>Appearance</b>	Colourless liquid.
<b>Odour</b>	Amine.
<b>Melting Point</b>	-24 °C
<b>Boiling Point</b>	202 °C at 1013 hPa
<b>Solubility in Water</b>	1000g/l at 25°C
<b>pH</b>	8.5-10.0 at 20°C
<b>Vapour Pressure</b>	0.32 hPa at 20°C
<b>Vapour Density (Air=1)</b>	3.42
<b>Viscosity</b>	1.8 mPa.s at 20°C
<b>Partition Coefficient: log Pow:</b>	-0.46
<b>n-octanol/water</b>	
<b>Density</b>	1.030 g/ml at 20°C
<b>Auto-Ignition Temperature</b>	245°C
<b>Explosion Limit - Upper</b>	9.5% (V)
<b>Explosion Limit - Lower</b>	1.3% (V)
<b>Explosion Properties</b>	Not explosive.
<b>Molecular Weight</b>	99.13
<b>Oxidising Properties</b>	No oxidizing properties.
<b>Other Information</b>	Taste: Sharp saline taste.

**10. Stability and reactivity**

<b>Reactivity</b>	Hygroscopic. Sensitive to light. Explosible with air in a vaporous/gaseous state.
<b>Chemical Stability</b>	Stable under ordinary conditions of use and storage.
<b>Conditions to Avoid</b>	Strong heating.
<b>Incompatible Materials</b>	Strong oxidizing agents, strong acids, nitric acid.
<b>Hazardous Decomposition Products</b>	Unsuitable working materials: Various plastic.
<b>Possibility of hazardous reactions</b>	Nitrogen oxides, carbon monoxide, carbon dioxide (Hazardous decomposition products from under fire condition).
<b>Hazardous Polymerization</b>	The substance can react dangerously with strong oxidizing agents, strong acids, nitric acid.
	Will not occur.

**11. Toxicological Information**

<b>Acute Toxicity - Oral</b>	LD50 (oral, rat): 3598 mg/kg.
<b>Acute Toxicity - Dermal</b>	LD50 (dermal, rabbit): 8000 mg/kg.
<b>Acute Toxicity - Inhalation</b>	LC50 (inhalation, rat): 5.1 mg/l/4 h.
<b>Ingestion</b>	Symptoms : Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract. Pain, vomiting, diarrhea.
<b>Inhalation</b>	Symptoms: irritation in the respiratory tract.
<b>Skin</b>	Irritations, danger of skin absorption.
<b>Eye</b>	Irritations.
<b>Carcinogenicity</b>	Noncarcinogenic in animal experiments.



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<b>Reproductive Toxicity</b>	May cause harm to the unborn child.
<b>STOT-single exposure</b>	May cause respiratory irritation.
<b>Mutagenicity</b>	Bacterial mutagenicity; Ames test is negative.

**12. Ecological information**

<b>Persistence and degradability</b>	>90 % /20d. Readily biodegradable.
<b>Bioaccumulative Potential</b>	log Pow: -0.46 (experimental) No bioaccumulation is to be expected (log P o/w <1)
<b>Environmental Protection</b>	Do not allow to enter waters, waste water, or soil!
<b>Acute Toxicity - Fish</b>	LC50 L.macrochirus : 832 mg/l/96h.
<b>Acute Toxicity - Daphnia</b>	EC50 Daphnia magna: 4897 mg/l/48h.
<b>Acute Toxicity - Algae</b>	IC50 Desmodesmus subspicatus: >500 mg/l/72h.
<b>Acute Toxicity - Bacteria</b>	EC50 Bacteria : >9000 mg/l/48h.

**13. Disposal considerations**

<b>Disposal Considerations</b>	Whatever cannot be saved for recovery or recycling should be disposed of according to relevant local, state and federal government regulations.
<b>Waste Disposal</b>	Handle contaminated packaging as hazardous waste in the same way of the substance itself.

**14. Transport information**

<b>Transport Information</b>	Not classified as a Dangerous Good according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.
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**15. Regulatory information**

<b>Regulatory Information</b>	Not listed under WHS Regulation 2011, Schedule 10 - Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals. Listed in the Australian Inventory of Chemical Substances (AICS).
<b>Poisons Schedule</b>	S6

**16. Other Information**

<b>Literature References</b>	'Standard for the Uniform Scheduling of Medicines and Poisons .', Commonwealth of Australia. Lewis, Richard J. Sr. 'Hawley's Condensed Chemical Dictionary 13th. Ed.', Rev., John Wiley and Sons, Inc., NY, 1997. National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.', 2007. Safe Work Australia, 'National Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals', 2011. Standards Australia, 'SAA/SNZ HB 76:2010 Dangerous Goods - Initial Emergency Response Guide', Standards Australia/Standards New Zealand, 2010. Safe Work Australia, 'Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004)]'. Safe Work Australia, 'Hazardous Substances Information System, 2005'. Safe Work Australia, 'National Code of Practice for the Labelling of Safe Work Hazardous Substances (2011)'. Safe Work Australia, 'National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995) 3rd Edition]'. Paul McCarthy Ph. (08) 8440 2000 <b>DISCLAIMER STATEMENT:</b> All information provided in this data sheet or by our technical representatives is compiled from the best knowledge available to us. However, since data, safety standards and government regulations are subject to change and the conditions of handling and use, or misuse, are beyond our control, we make no warranty either expressed or implied, with respect to the completeness or accuracy to the information contained herein. Chem-Supply accepts no responsibility whatsoever for its accuracy or for any results that may be obtained by customers from using the data and disclaims all liability for reliance on information provided in this data sheet or by our technical representatives.
<b>Contact Person/Point</b>	



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# Safety Data Sheet

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**Empirical Formula &** C<sub>5</sub>H<sub>9</sub>NO

**Structural Formula**

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