



# SAFETY DATA SHEET

## SECTION 1 IDENTIFICATION: PRODUCT IDENTIFIER AND CHEMICAL IDENTITY

<b>Product Identifier</b>	<b>N-METHYLPYRROLIDONE</b>
<b>Other Names</b>	NMP, N-Methyl-2-Pyrrolidone
<b>Manufacturer's Product Code</b>	16893
<b>Recommended Use</b>	Solvent, raw material for chemical industry

### Details of Supplier/Manufacturer

Company:	Recochem Inc. ABN: 69 010 485 999
Address:	1809 Lytton Road, Lytton, Queensland 4178
Phone:	(07) 3308 5200 Fax: (07) 3308 5201
Website:	www.recochem.com.au

### Emergency Telephone Numbers

Business Hours:	(07) 3308 5200
After Hours:	1300 131 001
Poisons Information:	Australia: 13 11 26 New Zealand: 0800 764 766

## SECTION 2 HAZARDS IDENTIFICATION

<b>Hazardous chemical</b>	<i>according to classification by Safe Work Australia</i>
<b>Non-dangerous goods</b>	<i>according to the Australian Code for the Transport of Dangerous Goods by Road and Rail</i>

<b>Signal Word</b>	<b>DANGER</b>
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Hazardous chemical classification	Pictogram	Hazard statement
Toxic to Reproduction, Category 1B	 HEALTH HAZARD	H360D May damage the unborn child
Skin Corrosion/Irritation, Category 2	 EXCLAMATION MARK	H315 Causes skin irritation
Eye Damage/Irritation, Category 2A		H319 Causes serious eye irritation
Specific Target Organ Toxicity (Single exposure), Category 3		H335 May cause respiratory irritation

**Product: N-METHYLPYRROLIDONE****Precautionary statements:**

<i>GENERAL</i>	
P101	If medical advice is needed, have product container or label at hand
P102	Keep out of reach of children
P103	Read label before use
<i>PREVENTATIVE</i>	
P201	Obtain special instructions before use
P202	Do not handle until all safety precautions have been read and understood
P261	Avoid breathing mist/vapours/spray
P264	Wash thoroughly after handling
P271	Use only outdoors or in a well-ventilated area
P280	Wear protective gloves/eye protection/face protection
P281	Use personal protective equipment as required
<i>RESPONSE</i>	
P302 + P352	IF ON SKIN: Wash with plenty of soap and water
P304 + P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
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
P312	Call a POISON CENTER or doctor/physician if you feel unwell
P332 + P313	If skin irritation occurs: Get medical advice/attention
P337 + P313	If eye irritation persists: Get medical advice/attention
P362	Take off contaminated clothing and wash before reuse
<i>STORAGE</i>	
P403 + P233	Store in a well-ventilated place. Keep container tightly closed
P405	Store locked up
<i>DISPOSAL</i>	
P501	Dispose of contents/container in accordance with local regulations

**SECTION 3 COMPOSITION AND INFORMATION ON INGREDIENTS****Ingredients Names and Proportions**

Chemical Entity	CAS Number	Proportion (%)
N-Methylpyrrolidone	872-50-4	> 99

**SECTION 4 FIRST AID MEASURES****Description of necessary first aid measures**

Inhalation:	Keep victim calm and remove to fresh air if safe to do so. If rapid recovery does not occur, transport to nearest medical facility for additional treatment
Skin Contact:	If skin contact occurs, remove contaminated clothing and wash skin thoroughly with water and follow by washing with soap if available. If any irritation occurs, seek medical attention
Eye Contact:	If in eyes, hold eyes open, flood with water for at least 15 minutes. Seek medical attention
Ingestion:	If swallowed, do NOT induce vomiting. Transport to nearest medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspiration

**Product: N-METHYLPYRROLIDONE**

**Symptoms caused by exposure**

Inhalation:	May cause irritation to the respiratory system
Skin:	May include redness, swelling, pain and/or blisters
Eye:	May include burning sensation and redness
Ingestion:	May include nausea, vomiting and abdominal cramps

**Medical attention and special treatment**

Treat symptomatically.

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**SECTION 5 FIRE FIGHTING MEASURES**

**Suitable extinguishing equipment**

Foam, water spray or fog, dry chemical powder, carbon dioxide. Do not use water in a jet.

**Specific hazards arising from the chemical**

Oxides of carbon and nitrogen may be evolved if incomplete combustion occurs.

**Special protective equipment and precautions for fire fighters**

Combustible liquid. Wear full protective clothing and self-contained breathing apparatus.

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**SECTION 6 ACCIDENTAL RELEASE MEASURES**

**Personal precautions, protective equipment and emergency procedures**

Avoid contact with spilled or released material. Shut off leaks, if possible without personal risks. Increase ventilation. Isolate hazard area and deny entry to unnecessary or unprotected personnel. Remove all sources of ignition in the surrounding area. Take precautionary measure against static discharge. Ensure electrical continuity by bonding and earthing all equipment.

**Environmental precautions**

Prevent from spreading and entering waterways using sand, earth or other appropriate barriers.

**Methods and materials for containment and cleaning up**

For small spills (< 1 drum), transfer by mechanical means to a labelled, sealable container for product recovery or safe disposal. Allow any residues to evaporate or use an appropriate absorbent material and dispose of safely.

For larger spills (> 1 drum), transfer by means such as a vacuum truck to a salvage tank for recovery or disposal. Do not flush residues with water. Retain as contaminated waste. Allow any residues to evaporate or use an appropriate absorbent material and dispose of safely.

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**SECTION 7 HANDLING AND STORAGE**

**Precautions for safe handling**

Avoid breathing vapours. Avoid contact with skin, eyes and clothing. Wash thoroughly after handling. Do not eat, drink or smoke in contaminated areas. Handle and open containers with care in a well-ventilated area. Ensure that the workplace is ventilated such that the Occupational Exposure limit is not exceeded. Do not empty into drains.

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

Combustible liquid. Do not store near strong oxidisers.

**Product: N-METHYLPYRROLIDONE****SECTION 8 EXPOSURE CONTROLS AND PERSONAL PROTECTION****Exposure control measures**

From National Occupational Health & Safety Commission (NOHSC) Worksafe Australia -  
N-Methylpyrrolidone: 103mg/m<sup>3</sup> (25ppm) TWA (8hr), 309mg/m<sup>3</sup> (75ppm) STEL.

**Biological monitoring**

No biological limit allocated.

**Engineering controls**

Ensure that adequate ventilation is provided. Maintain air concentrations below recommended exposure standards. Avoid generating and inhaling mists and vapours. Keep containers closed when not in use.

**Individual protection measures**

Eye and face protection:	Wear safety goggles.
Skin protection:	Use solvent resistant gloves, nitrile for longer term protection or PVC and neoprene for incidental splashes.
Respiratory protection:	If work practices do not maintain airborne level below the exposure standard, use appropriate respiratory protection equipment. When using respirators, select an appropriate combination of mask and filter. Select a filter for organic gases and vapours (boiling point > 65°C). Respirators should comply with AS1716 or an equivalent approved by a state/territory authority.
Thermal hazards:	Not applicable.

**SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES**

Appearance:	Colourless liquid
Odour:	Mild amine aroma
Odour threshold (ppm):	Data not available
pH:	8.5 – 10 (10% solution in water)
Melting point/freezing point (°C):	-24
Initial boiling point and boiling range (°C):	204
Flash point (°C):	91 (CC)
Evaporation rate (Butyl acetate = 1):	Data not available
Flammability:	Combustible
Upper/lower flammability or explosive limits (%):	1.3 – 9.5
Vapour pressure (mmHg @ 20°C):	0.27
Vapour density (air = 1):	Data not available
Density (g/ml @ 15°C):	1.027
Solubility:	Miscible in water
Partition coefficient: n-octanol/water:	Data not available
Auto-ignition temperature (°C):	245 typical
Decomposition temperature (°C):	Data not available
Kinematic viscosity (mm <sup>2</sup> /s @ 20°C):	Data not available

**Product: N-METHYLPYRROLIDONE**

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**SECTION 10 STABILITY AND REACTIVITY**

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**Reactivity**

Stable under normal conditions of use.

**Chemical stability**

Stable under normal conditions of use.

**Possibility of hazardous reactions**

Stable under normal conditions of use.

**Conditions to avoid**

Avoid heat, sparks, open flames and other ignition sources.

**Incompatible materials**

Strong oxidising agents, strong reducing agents.

**Hazardous decomposition products**

Thermal decomposition is highly dependent on conditions. A complex mixture of airborne solids, liquids, gases, including carbon monoxide, carbon dioxide and other organic compounds will be evolved when this material undergoes combustion or thermal or oxidative degradation.

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**SECTION 11 TOXICOLOGICAL INFORMATION**

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Acute toxicity:	Expected to be of low toxicity: LD50(rat) > 3600mg/kg
Skin corrosion/irritation:	Irritating to skin. Can be absorbed through skin
Serious eye damage/irritation:	Irritating to eyes
Respiratory or skin sensitisation:	Not expected to be a sensitiser
Germ cell mutagenicity:	No evidence of mutagenic activity
Carcinogenicity:	Not carcinogenic in animal studies
Reproductive toxicity:	Damage to unborn child is possible
Specific Target Organ Toxicity (STOT) – single exposure:	Inhalation of mists may cause irritation to the respiratory system
Specific Target Organ Toxicity (STOT) – repeated exposure:	Data not available
Aspiration hazard:	Not considered an aspiration hazard

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**SECTION 12 ECOLOGICAL INFORMATION**

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**Ecotoxicity**

Acute toxicity:

Fish –	Bluegill: LC50 = 832mg/l Fathead Minnow: LC50 = 1072mg/l Trout: LC50 = 3048mg/l
Aquatic invertebrate –	Data not available
Algae –	Data not available
Microorganisms –	Data not available

**Product: N-METHYLPYRROLIDONE**

Chronic toxicity:

Fish –	Data not available
Aquatic invertebrate –	Data not available
Algae –	Data not available
Microorganisms –	Data not available

**Persistence and degradability**

Biodegradable (Warburg Respirometry method).

**Bioaccumulative potential**

Data not available.

**Mobility in soil**

Soluble in water, highly mobile and may contaminate groundwater.

**Other adverse effects**

Data not available.

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**SECTION 13 DISPOSAL CONSIDERATIONS**

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Ensure waste disposal conforms to local waste disposal regulations.

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**SECTION 14 TRANSPORT INFORMATION**

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<b>UN number:</b>	Not applicable
<b>Proper shipping name:</b>	Not applicable
<b>Australian Dangerous Goods class:</b>	Not applicable
<b>Australian Dangerous Goods packing group:</b>	Not applicable
<b>Hazchem code:</b>	Not applicable

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**SECTION 15 REGULATORY INFORMATION**

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Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP), Poisons Schedule:	6
Australian Inventory of Chemical Substances (AICS):	Listed
Dangerous Goods Initial Emergency Response Guide (SAA/SNZ HB76):	Not applicable

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**SECTION 16 OTHER INFORMATION**

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Date of preparation:	25/02/2016
Revision number:	3
Changes in this revision:	Update to GHS standard

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This SDS summarises product safety information at the date of issue, to the best of our knowledge, as a general guide. Recochem cannot anticipate or control the conditions under which the product is used, so prior to usage each user must assess and control the risks associated with their use of the product. Users should also consult the relevant legislation governing the use and storage of this product. We make no warranties, express or implied, and assume no liability in connection with any use of information contained within this document. If clarification or further information is needed, the user should contact Recochem on (07) 3308 5200.

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