

	<b>MATERIAL SAFETY DATA SHEET</b>	MSDS No.	01
	N-METHYL PYRROLIDONE	Effective From	07/07/2021

<b>Section 1 - IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY</b>	
<b>1.1 Identification of the substance</b>	
• Substance Name	1-methyl-2-pyrrolidone
• EC#	212-828-1
• CAS#	872-50-4
• Trade Names	As per the Client
• REACH Registration number	01-2119472430-46-XXXX
• Chemical Formula	C5H9NO
<b>1.2 Use of the Substance/Mixture:</b>	
• As per the Client	
<b>1.3 Company/undertaking identification:</b>	
• Name	Bloomchemag BV
• Address	Sint-Antoniusstraat 16 b1, B-2400, Mol, Belgium
• Phone No.	+91 72919 74484 / 72919 74050
• E-mail	info@bloomchemag.com
<b>Section 2 - HAZARDS IDENTIFICATION</b>	
<b>2.1 Classification according to GHS</b>	
Substance is classified as per CLP Regulation	
• Hazard Class and Category Code(s)	GHS08: health hazard GHS07: exclamation mark
• Hazard statement Code(s)	H360: May damage fertility or the unborn child <state specific effect if known > <state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>. unborn child H319: Causes serious eye irritation.H315: Causes skin irritation. H335: May cause respiratory irritation.

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### 2.2. Labeling according to Regulation (EC) No 1272/2008 (CLP)

<ul style="list-style-type: none"> <li><b>Hazard Pictogram</b></li> </ul>	
<ul style="list-style-type: none"> <li><b>Hazard Statements</b></li> </ul>	<p>H360: May damage fertility or the unborn child &lt;state specific effect if known &gt; &lt;state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard&gt;. unborn child</p> <p>H319: Causes serious eye irritation.</p> <p>H315: Causes skin irritation.</p> <p>H335: May cause respiratory irritation.</p>
<ul style="list-style-type: none"> <li><b>Precautionary Statements</b></li> </ul>	Follow general precautionary statement

### 2.3. Other hazards

Not identified


## Section 3 - COMPOSITION/INFORMATION ON INGREDIENTS

Constituent	CAS NUMBER	Typical concentration	Concentration range	Remarks
1-methyl-2-pyrrolidone	872-50-4	99.85% w/w	99-99.99%w/w	None


## Section 4 - FIRST AID MEASURES

### 4.1 Description of First Aid measures:


<ul style="list-style-type: none"> <li><b>General advice</b> :</li> </ul>	Remove contaminated clothing.
<ul style="list-style-type: none"> <li><b>Eye contact</b> :</li> </ul>	Wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.
<ul style="list-style-type: none"> <li><b>Skin Contact</b> :</li> </ul>	Immediately wash thoroughly with soap and water, seek medical attention.
<ul style="list-style-type: none"> <li><b>Inhalation</b> :</li> </ul>	Keep patient calm, remove to fresh air. If breathing difficulties develop, aid in breathing and seek immediate medical attention.

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<ul style="list-style-type: none"> <li> <b>Ingestion</b> : </li> </ul>	Immediately rinse mouth and then drink 200-300 ml of water, seek medical
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<b>4.2. Most important symptoms and effects, both acute and delayed</b>
Symptoms: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11., Further symptoms are possible
<b>4.3. Indication of any immediate medical attention and special treatment needed</b>
Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.
<b>Section 5 - FIRE-FIGHTING MEASURES</b>
<b>5.1. Extinguishing media:</b>
Suitable extinguishing media: water spray, dry powder, foam, carbon dioxide
<b>5.2. Special hazards arising from the substance or mixture</b>
carbon monoxide, Carbon dioxide, nitrous gases Under certain conditions in case of fire other hazardous combustion products may be generated.
<b>5.3. Advice for fire-fighters</b>
Special protective equipment: Wear self-contained breathing apparatus and chemical-protective clothing.
<b>Section 6 - ACCIDENTAL RELEASE MEASURES</b>
<b>6.1. Personal precautions, protective equipment and emergency procedures</b>
<b>6.1.1 For non-emergency personnel:</b>
Handle in accordance with good industrial hygiene and safety practice. Wear respiratory protection if ventilation is inadequate. Avoid contact with the substance.
<b>6.1.2 For emergency responders</b>
NA
<b>6.2. Environmental precautions:</b>
<ul style="list-style-type: none"> <li>Do not discharge into the subsoil/soil. Do not discharge into drains/surface waters/groundwater. Retain and dispose of contaminated wash water. Dispose of in compliance with the environmental protection requirements.</li> </ul>
<b>6.3. Methods and material for containment and cleaning:</b>
<ul style="list-style-type: none"> <li>For small amounts: Pick up with absorbent material (e.g. sand, sawdust, general-purpose binder).</li> <li>For large amounts: Pump off product.</li> <li>For residues: Pick up with suitable absorbent material (e.g. sand, sawdust, general-purpose binder, kieselguhr).</li> </ul>

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- Clean contaminated floors and objects thoroughly with water and detergents, observing environmental regulations. Collect waste in suitable containers, which can be labeled and sealed. Incinerate or take to a special waste disposal site in accordance with local authority regulations.

## **Section 7 - HANDLING AND STORAGE**

### **7.1 Precautions for safe handling**

- Ensure thorough ventilation of stores and work areas. Product should be worked up in closed equipment as far as possible.
- Protection against fire and explosion:
- Prevent electrostatic charge - sources of ignition should be kept well clear - fire extinguishers should be kept handy. Keep away from sources of ignition - No smoking

### **7.2 Conditions for safe storage:**

Further information on storage conditions: Containers should be stored tightly sealed in a dry place.

Storage stability:

Storage duration: 24 Months

From the data on storage duration in this safety data sheet no agreed statement regarding the warranty of application properties can be deduced

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

- No further recommendations.

## **Section 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION**

### **8.1 Control Parameters:**



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Components with occupational exposure limits

872-50-4: N-methyl-2-pyrrolidone

Skin Designation (WEL/EH 40 (UK))

The substance can be absorbed through the skin.

STEL value 80 mg/m<sup>3</sup> ; 20 ppm (WEL/EH 40 (UK))

TWA value 40 mg/m<sup>3</sup> ; 10 ppm (WEL/EH 40 (UK))

Skin Designation (OEL (EU))

The substance can be absorbed through the skin.

STEL value 80 mg/m<sup>3</sup> ; 20 ppm (OEL (EU))

indicative

TWA value 40 mg/m<sup>3</sup> ; 10 ppm (OEL (EU))

indicative

PNEC

freshwater: 0.25 mg/l

marine water: 0.025 mg/l

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intermittent release: 5 mg/l sediment

(freshwater): 0.805 mg/kg

sediment (marine water): 0.0805 mg/kgsoil:

0.138 mg/kg

STP: 10 mg/l

oral (secondary poisoning): 1.67 mg/kg

DNEL

worker:

DNEL inhalative: 14,4 mg/m<sup>3</sup>

DNEL dermal: 4,8 mg/kg/day

worker:

Long-term exposure- systemic effects, Inhalation: 40 mg/m<sup>3</sup>o data available


**8.2 Exposure Control:**

- Engineering Measures:**

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with the skin, eyes and clothing. Females in early pregnancy must never be exposed to the substance. Under no circumstances should the product come into contact with the skin of pregnant women or be inhaled by them. Take off immediately all contaminated clothing. Wash contaminated clothing before reuse. Gloves must be inspected regularly and prior to each use. Replace if necessary (e.g. pinhole leaks).

- Respiratory Protection:**

Respiratory protection required in case of exceeding the occupational exposure limit: Gas filter for gases/vapours of organic compounds (boiling point >65 °C, e. g. EN 14387 Type A) Respiratory protection in case of vapour/aerosol release. Combination filter for gases/vapours of organic compounds and solid and liquid particles (f.e. EN 14387 Type A-P2) Consider the risk management measures as outlined in the exposure scenario.

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<ul style="list-style-type: none"> <li> <b>Hand Protection</b> </li> </ul>	<p>Chemical resistant protective gloves (EN 374)</p> <p>Suitable materials also with prolonged, direct contact (Recommended: Protective index 6, corresponding &gt; 480 minutes of permeation time according to EN 374):</p> <p>butyl rubber (butyl) - 0.7 mm coating thickness</p> <p>Suitable materials for short-term contact (recommended: At least protective index 2, corresponding &gt; 30 minutes of permeation time according to EN 374)</p> <p>nitrile rubber (NBR) - 0.4 mm coating thickness</p> <p>chloroprene rubber (CR) - 0.5 mm coating thickness</p>
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	Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to many conditions (e.g. temperature) it must be considered, that the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing. Manufacturer's directions for use should be observed because of great diversity of types.
<ul style="list-style-type: none"> <li>• <b>Eye protection</b></li> </ul>	Safety glasses with side-shields (frame goggles) (e.g. EN 166)
<ul style="list-style-type: none"> <li>• <b>Body protection</b></li> </ul>	Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

**Section 9 – PHYSICAL & CHEMICAL PROPERTIES:**

**9.1 General Information:**

<ul style="list-style-type: none"> <li>• <b>Physical state</b></li> </ul>	Liquid
<ul style="list-style-type: none"> <li>• <b>Color</b></li> </ul>	NA
<ul style="list-style-type: none"> <li>• <b>Odour</b></li> </ul>	No data available
<ul style="list-style-type: none"> <li>• <b>pH(50 g/l (20°C))</b></li> </ul>	No data available
<ul style="list-style-type: none"> <li>• <b>Boiling point/boiling range</b></li> </ul>	204.1 °C
<ul style="list-style-type: none"> <li>• <b>Melting point</b></li> </ul>	-24.2 °C
<ul style="list-style-type: none"> <li>• <b>Relative Density</b></li> </ul>	1.03 g/cm <sup>3</sup>
<ul style="list-style-type: none"> <li>• <b>Vapour pressure</b></li> </ul>	0.32 hPa
<ul style="list-style-type: none"> <li>• <b>Vapour density</b></li> </ul>	No data available
<ul style="list-style-type: none"> <li>• <b>Viscosity</b></li> </ul>	1.661 mPa · s (dynamic)
<ul style="list-style-type: none"> <li>• <b>Solubility in water</b></li> </ul>	1 000 g/L
<ul style="list-style-type: none"> <li>• <b>Solubility in organic solvent (n-octanol)</b></li> </ul>	NA

**Section 10 - STABILITY AND REACTIVITY**

<ul style="list-style-type: none"> <li>• <b>Reactivity</b></li> </ul>	No hazardous reactions if stored and handled as prescribed/indicated.  Formation of flammable gases: Remarks: Forms no flammable gases in the presence of water.
<ul style="list-style-type: none"> <li>• <b>Chemical stability</b></li> </ul>	The product is stable if stored and handled as prescribed/indicated.
<ul style="list-style-type: none"> <li>• <b>Possibility of hazardous reactions</b></li> </ul>	Exothermic reaction. Reacts with strong acids and alkalis.
<ul style="list-style-type: none"> <li>• <b>Thermal decomposition</b></li> </ul>	>300 C
<ul style="list-style-type: none"> <li>• <b>Conditions to avoid</b></li> </ul>	Avoid all sources of ignition: heat, sparks, open flame.
<ul style="list-style-type: none"> <li>• <b>Incompatible materials</b></li> </ul>	Substances to avoid:



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		bases, acids	
<ul style="list-style-type: none"> <li><b>Hazardous decomposition products</b></li> </ul>		Hazardous decomposition products: toxic gases/vapours	
<b>Section 11 - TOXICOLOGICAL INFORMATION</b>			
<b>11.1 Information on toxicological effects:</b>			
<b>Acute Toxicity</b>	<b>Specie</b>	<b>Administration</b>	<b>Result</b>
acute toxicity: oral	Rat	Gavage	LD50 Effect level: 4 150 mg/kg bw
acute toxicity: Inhalation	Rat	nose/head only	LC50 Effect level: > 5.1 mg/L air
<b>11.2 Irritation Corrosion:</b>			
<ul style="list-style-type: none"> <li>Skin: The dermal response was rated as minimal.</li> <li>Eye: Corneal effects were reversible within 14 days for unwashed eyes and within 7 days for washed eyes. Conjunctival effects cleared in unwashed eyes by the end of the 21 -day observation period and in washed eyes by day 14.</li> </ul>			
<b>11.3 Sensitization</b>			
<ul style="list-style-type: none"> <li>No signs of systemic toxicity were noticed</li> </ul>			
<b>11.4 CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)</b>			
<ul style="list-style-type: none"> <li><b>Carcinogenicity</b></li> </ul>		No study available	
<ul style="list-style-type: none"> <li><b>Mutagenic effects</b></li> </ul>		NOT MUTAGENC	
<ul style="list-style-type: none"> <li><b>Reprotoxic effects</b></li> </ul>		Repr. Cat 1B, H360D May damage the unborn child.	
<b>11.5 Other toxic effects on humans:</b>			
<ul style="list-style-type: none"> <li><b>Inhalation</b></li> </ul>		No data available	
<ul style="list-style-type: none"> <li><b>Eyes</b></li> </ul>		No data available	
<ul style="list-style-type: none"> <li><b>Ingestion</b></li> </ul>		No data available	
<ul style="list-style-type: none"> <li><b>Chronic toxicity</b></li> </ul>		No data available	
<b>11.6 NIOSH Immediately Dangerous To Life or Health Concentration (IDLH):</b> No information available			
<b>11.7 Specific target organ toxicity:</b>			
<ul style="list-style-type: none"> <li><b>Single exposure</b></li> </ul>		No data available.	

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<ul style="list-style-type: none"> <li>• <b>Repeated exposure</b></li> </ul>	No data available.
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**Section 12 - ECOLOGICAL INFORMATION****12.1 Ecotoxicity:**

Substance name	Toxicity	Duration	Endpoint with Effective conc. :
1-methyl-2-pyrrolidone	Short-term toxicity to FISH	48 hr	LC50 of >500 mg/L
	Short-term toxicity to aquatic invertebrates	48 hr	EC50/LC50 for freshwater invertebrates: 1 000 mg/L

**12.2 Persistence and degradability:**

- No data available

**12.3 Bioaccumulative potential:**

- not B/vB


**12.3 Mobility in soil:**

PNEC soil :  
0.07 mg/kg soil dw

**12.5 Results of PBT and vPvB assessment:**

- the substance is not PBT / vPvB

**12.6 Other adverse effects:****NA****Section 13 - DISPOSAL CONSIDERATIONS**

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### 13.1. Waste treatment methods

Incinerate in suitable incineration plant, observing local authority regulations.

A waste code in accordance with the European waste catalog (EWC) cannot be specified, due to dependence on the usage.


The waste code in accordance with the European waste catalog (EWC) must be specified in cooperation with disposal agency/manufacturer/authorities.

The UK Environmental Protection (Duty of Care) Regulations (EP) and amendments should be noted (United Kingdom).


This product and any uncleaned containers must be disposed of as hazardous waste in accordance with the 2005 Hazardous Waste Regulations and amendments (United Kingdom)

Contaminated packaging:

Contaminated packaging should be emptied as far as possible; then it can be passed on for recycling after being thoroughly cleaned.

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<b>Section 14: TRANSPORT INFORMATION:</b> NA
<b>Section 15 - REGULATORY INFORMATION</b>
<b>15.1 Other regulatory information:</b>
This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006 and restriction according to REACH annex XVII, no.: 71
<p><b>Safety, health and environmental regulations/legislation specific for the substance or mixture</b>  Control of Substances Hazardous to Health Regulations (COSHH) 2002 SI 2002/2677 and COSHH Essentials: Easy steps to control chemicals - Control of Substances Hazardous to Health Regulations HSG193.</p> <p><b>Inventory Status</b>  Listed in: Australia (AICS) Canada (DSL/NDSL) China (IECSC) European Union (EINECS/ELINCS) South Korea (KECI) Philippines (PICCS) New Zealand Inventory (NZIoC)</p>
<b>15.2 Chemical Safety Assessment:</b>
A chemical safety assessment has been carried out for the substance or the mixture by the supplier (LR) - Yes
<b>Section 16 – OTHER INFORMATION</b>
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, Storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information related only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
<b>16.1 Technical Advice:</b>
Use data given in this Safety Data Sheet and make an inventory list of all chemicals used in the factory
<ul style="list-style-type: none"> <li>• Create a Register for Workplace Chemicals;</li> <li>• Set priorities concerning the safety in the organization</li> <li>• Create emergency plans for the assessed hazards;</li> <li>• Organize occupational health care and regular surveys as necessary;</li> <li>• Organize contacts with authorities/laboratories to create a monitoring system for chemical hazards, and to reliably measure and/or estimate occupational exposures to chemicals when needed;</li> <li>• Start collecting case studies of accidents and sickness records in the enterprise to create a basis for priority measures in the control of hazards;</li> <li>• Involve workers in safety organizations, such as the system of Safety Representatives and Committees.</li> <li>• Do regular inspection using checklists made for the particular chemicals and chemical processes in use;</li> <li>• Mark and label all chemicals;</li> <li>• Keep at hand an inventory list of all chemicals handled in the place of work together with a collection of Chemical Safety Data Sheets for these chemicals;</li> <li>• Train workers to read and understand the Chemical Safety Information, including the health hazards and routes of exposure; train them to handle dangerous chemicals and processes with respect;</li> </ul>

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<ul style="list-style-type: none"> <li>• Plan, develop and choose the safe working procedures;</li> </ul>
<ul style="list-style-type: none"> <li>• Reduce the number of people coming into contact with dangerous chemicals;</li> </ul>
<ul style="list-style-type: none"> <li>• Reduce the length of time and/or frequency of exposure of workers to dangerous chemicals;</li> </ul>
<ul style="list-style-type: none"> <li>• Train workers to know and understand the emergency procedures;</li> </ul>
<ul style="list-style-type: none"> <li>• Equip and train workers to use personal protective equipment properly after everything possible has been done to eliminate hazards by means of other methods;</li> </ul>
<p><b>16.2 List of relevant R-phrases</b> NA</p>