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Conforms to EU Regulation 1907/2006/EC as amended. - SDSCLP\_GB

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

Trade name : n-methyl-2-pyrrolidone

Registration number : 01-2119472430-46-xxxx

Substance name : 1-methyl-2-pyrrolidone

Substance No.  
Index-No. : 606-021-00-7  
EC-No. : 212-828-1  
CAS-No. : 872-50-4

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Substance/Mixture : Cleaning solutions.  
Solvent.  
Coatings  
Laboratory chemicals  
Processing aid  
Agrochemicals  
Functional fluids  
Road and construction applications

### 1.3 Details of the supplier of the safety data sheet

Vinyl Kft.  
1097 Budapest  
Illatos út 19-23.  
hungary

ehsq@vinyl.hu

### 1.4 Emergency telephone number

Egészségügyi Toxikológiai Tájékoztató  
Szolgálat (ETTSZ) 1097 Budapest,  
Nagyvárad tér 2. Tel: (36-1) 476-64-64

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## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

#### Classification (REGULATION (EC) No 1272/2008)

Reproductive toxicity, Category 1B  
Specific target organ toxicity - single exposure, Category 3, Respiratory system

H360D: May damage the unborn child.  
H335: May cause respiratory irritation.

Eye irritation, Category 2  
Skin irritation, Category 2

H319: Causes serious eye irritation.  
H315: Causes skin irritation.

#### Classification (67/548/EEC, 1999/45/EC)

Toxic to Reproduction Category 2  
Irritant

R61: May cause harm to the unborn child.  
R36/37/38: Irritating to eyes, respiratory system and skin.

### 2.2 Label elements

#### Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal word : Danger

Hazard statements : H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H335 May cause respiratory irritation.  
H360D May damage the unborn child.

Precautionary statements : **Prevention:**  
P201 Obtain special instructions before use.  
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.  
P280 Wear protective gloves/ eye protection/ face protection.  
P281 Use personal protective equipment as required.  
**Response:**  
P308 + P313 IF exposed or concerned: Get medical advice/ attention.  
P337 + P313 If eye irritation persists: Get medical advice/ attention.



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In case of eye contact : Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Get medical attention.  
Remove contact lenses.

If swallowed : Do not induce vomiting without medical advice.  
Never give anything by mouth to an unconscious person.  
Obtain medical attention.

#### 4.2 Most important symptoms and effects, both acute and delayed

Symptoms :

Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include:  
Blistering  
stomach or intestinal upset (nausea, vomiting, diarrhea)  
irritation (nose, throat, airways)  
central nervous system depression (dizziness, drowsiness, weakness, fatigue, nausea, headache, unconsciousness)  
confusion

Risks : No data available

#### 4.3 Indication of any immediate medical attention and special treatment needed

Treatment : No hazards which require special first aid measures.

### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media

Suitable extinguishing media : ABC powder  
Carbon dioxide (CO<sub>2</sub>)  
Dry chemical  
Water mist

Unsuitable extinguishing media : Halons

#### 5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting : Do not allow run-off from fire fighting to enter drains or water courses.

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Hazardous combustion products : carbon dioxide and carbon monoxide  
Hydrocarbons  
Nitrogen oxides (NOx)

### 5.3 Advice for firefighters

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.  
Use personal protective equipment.

Further information : Keep containers and surroundings cool with water spray.  
Prevent fire extinguishing water from contaminating surface water or the ground water system.  
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.  
Pay attention to the spreading of gases especially at ground level (heavier than air) and to the direction of the wind.  
Evacuate personnel to safe areas.

### 6.2 Environmental precautions

Environmental precautions : Prevent further leakage or spillage if safe to do so.

### 6.3 Methods and materials for containment and cleaning up

Methods for cleaning up : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).  
Keep in suitable, closed containers for disposal.

### 6.4 Reference to other sections

No data available

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Advice on safe handling : Do not breathe vapours or spray mist.  
Avoid exposure - obtain special instructions before use.

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Avoid contact with skin and eyes.  
 For personal protection see section 8.  
 Provide sufficient air exchange and/or exhaust in work rooms.  
 Avoid exceeding of the given occupational exposure limits (see section 8).  
 Smoking, eating and drinking should be prohibited in the application area.

Advice on protection against fire and explosion : Keep away from heat and sources of ignition.

### 7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Store in original container.  
 Keep containers tightly closed in a dry, cool and well-ventilated place.  
 Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Other data : Stable under recommended storage conditions.

### 7.3 Specific end use(s)

No data available

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

Components	CAS-No.	Value type	Form of Exposure	Control parameters	Update	Basis
1-methyl-2-pyrrolidone	872-50-4	TWA		10 ppm 40 mg/m <sup>3</sup>	12 2011	EH40 WEL
Further information:						
1-methyl-2-pyrrolidone	872-50-4	STEL		20 ppm 80 mg/m <sup>3</sup>	12 2011	EH40 WEL

### 8.2 Exposure controls

#### Engineering measures

Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below level of overexposure (from known, suspected or apparent adverse effects).

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### Personal protective equipment

- Respiratory protection : In the case of vapour formation use a respirator with an approved filter.
- Hand protection : butyl-rubber  
: Nitrile rubber  
: Wear resistant gloves such as:
- Eye protection : Tightly fitting safety goggles
- Skin and body protection : Wear as appropriate:  
Safety shoes  
impervious clothing  
Discard contaminated shoes.
- Hygiene measures : Keep away from food, drink and animal feedingstuffs.  
When using do not eat, drink or smoke.  
Ensure that eyewash stations and safety showers are close to the workstation location.  
Wash hands and face before breaks and immediately after handling the product.

### Environmental exposure controls

- General advice : Prevent further leakage or spillage if safe to do so.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

- Appearance : liquid
- Colour : clear
- Odour : mild; amine-like
- Odour Threshold : No data available
- pH : 7,2; 10 %
- Freezing point / Melting point : -24,2 °C

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Boiling point : 204 °C  
 Flash point : 91 °C  
 Evaporation rate : No data available  
 Flammability (solid, gas) : No data available  
 Burning rate : No data available  
 Lower explosion limit : No data available  
 Upper explosion limit : No data available  
 Vapour pressure : 0,32 hPa; 20 °C  
 Relative vapour density : No data available  
 Relative density : No data available  
 Density : 1,027 g/cm<sup>3</sup>; 25 °C  
 Water solubility : No data available  
 Solubility in other solvents : No data available  
 Partition coefficient: n-octanol/water : log Pow: -0,46  
 Auto-ignition temperature : 245 °C  
 Ignition temperature : No data available  
 Thermal decomposition : No data available  
 Viscosity, dynamic : 1,661 mPa.s; 25 °C  
 Viscosity, kinematic : No data available  
 Explosive properties : No data available  
 Oxidizing properties : No data available

## 9.2 Other information

Bulk density : No data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Hazardous polymerisation does not occur.

### 10.2 Chemical stability

**No hazards to be specially mentioned.**

### 10.3 Possibility of hazardous reactions

Hazardous reactions : Hazardous polymerisation does not occur.  
: Further information: No hazards to be specially mentioned.

### 10.4 Conditions to avoid

Conditions to avoid : Exposure to moisture.  
Exposure to light.

### 10.5 Incompatible materials

Materials to avoid : Reducing agents  
Strong acids  
strong alkalis  
Strong oxidizing agents

### 10.6 Hazardous decomposition products

Hazardous decomposition products : carbon dioxide and carbon monoxide  
Hydrocarbons  
nitrogen compounds

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### **Product**

Acute oral toxicity : No data available  
Acute inhalation toxicity : No data available  
Acute dermal toxicity : No data available  
Skin corrosion/irritation : No data available

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Serious eye damage/eye irritation : No data available

Respiratory or skin sensitisation : No data available

STOT - repeated exposure : Target Organs: Overexposure to this material (or its components) has been suggested as a cause of the following effects in laboratory animals:., male and female reproductive fertility effects

**Components:**

**1-methyl-2-pyrrolidone :**

Acute oral toxicity : LD 50: 4.150 mg/kg, Rat

Acute inhalation toxicity : LC 50: > 5,1 mg/l, 4 h, Rat,

Acute dermal toxicity : LD 50: 8.000 mg/kg, Rabbit

Respiratory or skin sensitisation : Classification: Did not cause sensitisation on laboratory animals.

Germ cell mutagenicity

Genotoxicity in vitro : In vitro tests did not show mutagenic effects

Genotoxicity in vivo : in vivo assay, Result: negative

**SECTION 12: Ecological information**

**12.1 Toxicity**

**Product:**

No data available

**Components:**

**1-methyl-2-pyrrolidone:**

Toxicity to fish : LC 50: 832 mg/l, 96 h, Lepomis macrochirus (Bluegill sunfish)

Toxicity to daphnia and other aquatic invertebrates : EC 50: > 1.000 mg/l, 24 h, Water flea (Daphnia magna)

Toxicity to algae : EC 50: > 500 mg/l, 72 h, Desmodesmus subspicatus

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## 12.2 Persistence and degradability

**Product:**

No data available

**Components:**

**1-methyl-2-pyrrolidone :**

Biodegradability : 73 %, Exposure time: 28 d, OECD Test Guideline 301C

## 12.3 Bioaccumulative potential

**Product:**

Bioaccumulation : The substance has low potential for bioaccumulation.

**Components:**

No data available

## 12.4 Mobility in soil

**Product:**

No data available

**Components:**

No data available

## 12.5 Results of PBT and vPvB assessment

**Product:**

No data available

**Components:**

No data available

## 12.6 Other adverse effects

**Product:**

No data available

**Components:**

No data available

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Product : Dispose of in accordance with the European Directives on waste and hazardous waste.

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- : Do not contaminate ponds, waterways or ditches with chemical or used container.  
Container hazardous when empty.  
Dispose of in accordance with local regulations.
- : Dispose of in accordance with the European Directives on waste and hazardous waste.
- : Do not contaminate ponds, waterways or ditches with chemical or used container.  
Container hazardous when empty.  
Dispose of in accordance with local regulations.
- Contaminated packaging : Empty remaining contents.  
Dispose of as unused product.  
Empty containers should be taken to an approved waste handling site for recycling or disposal.  
Do not re-use empty containers.  
Do not burn, or use a cutting torch on, the empty drum.

## SECTION 14: Transport information

### 14.1 UN number

**ADR:** Not dangerous goods

**ADNR:** Not dangerous goods

**RID:** Not dangerous goods

**INTERNATIONAL MARITIME DANGEROUS GOODS:** Not dangerous goods

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO:** Not dangerous goods

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER:** Not dangerous goods

### 14.2 UN proper shipping name

**ADR:** Not dangerous goods

**ADNR:** Not dangerous goods

**RID:** Not dangerous goods

**INTERNATIONAL MARITIME DANGEROUS GOODS:** Not dangerous goods

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO:** Not dangerous goods

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER:** Not dangerous goods

### 14.3 Transport hazard class(es)

**ADR:** Not dangerous goods

**ADNR:** Not dangerous goods

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**RID:** Not dangerous goods

**INTERNATIONAL MARITIME DANGEROUS GOODS:** Not dangerous goods

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO:** Not dangerous goods

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER:** Not dangerous goods

#### 14.4 Packing group

**ADR:** Not dangerous goods

**ADNR:** Not dangerous goods

**RID:** Not dangerous goods

**INTERNATIONAL MARITIME DANGEROUS GOODS:** Not dangerous goods

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO:** Not dangerous goods

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER:** Not dangerous goods

#### 14.5 Environmental hazards

**ADR:** not applicable

**ADNR:** not applicable

**RID:** not applicable

**INTERNATIONAL MARITIME DANGEROUS GOODS:** not applicable

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO:** not applicable

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER:** not applicable

#### 14.6 Special precautions for user

Not applicable

#### 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Ship Type: Not applicable Hazard

code(s): Not applicable Pollutant

Category: Not applicable

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

### SECTION 15: Regulatory information

#### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Seveso II - Directive 2003/105/EC amending Council Directive 96/82/EC on the control of major-accident hazards involving dangerous substances

Directive 96/82/EC does not apply

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## 15.2 Chemical Safety Assessment

No data available

## SECTION 16: Other information

### Full text of R-phrases referred to under sections 2 and 3

R36/37/38	Irritating to eyes, respiratory system and skin.
R61	May cause harm to the unborn child.

### Full text of H-Statements referred to under sections 2 and 3.

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H360D	May damage the unborn child.

### Further information

Other information : The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.

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List of abbreviations and acronyms that could be, but not necessarily are, used in this safety data sheet :

ACGIH : American Conference of Industrial Hygienists

BEI : Biological Exposure Index

CAS : Chemical Abstracts Service (Division of the American Chemical Society).

CMR : Carcinogenic, Mutagenic or Toxic for Reproduction

FG : Food grade

GHS : Globally Harmonized System of Classification and Labeling of Chemicals.

H-statement : Hazard Statement

IATA : International Air Transport Association.

IATA-DGR : Dangerous Goods Regulation by the "International Air Transport Association" (IATA).

ICAO : International Civil Aviation Organization

ICAO-TI (ICAO) : Technical Instructions by the "International Civil Aviation Organization"

IMDG : International Maritime Code for Dangerous Goods

ISO : International Organization for Standardization

logPow : octanol-water partition coefficient

LCxx : Lethal Concentration, for xx percent of test population

LDxx : Lethal Dose, for xx percent of test population.

ICxx : Inhibitory Concentration for xx of a substance

Exx : Effective Concentration of xx

N.O.S.: Not Otherwise Specified

OECD : Organization for Economic Co-operation and Development

OEL : Occupational Exposure Limit

P-Statement : Precautionary Statement

PBT : Persistent , Bioaccumulative and Toxic

PPE : Personal Protective Equipment

STEL : Short-term exposure limit

STOT : Specific Target Organ Toxicity

TLV : Threshold Limit Value

TWA : Time-weighted average

vPvB : Very Persistent and Very Bioaccumulative

WEL : Workplace Exposure Level

ABM : Water Hazard Class for the Netherlands

ADR : Agreement concerning the International Carriage of Dangerous Goods by Road.

ADNR: Regulation for the Carriage of Dangerous Substances on the Rhine

CLP : Classification, Labelling and Packaging

CSA : Chemical Safety Assessment

CSR : Chemical Safety Report

DNEL : Derived No Effect Level.

EINECS : European Inventory of Existing Commercial Chemical Substances.

ELINCS : European List of Notified Chemical Substances

PEC : Predicted Effect Concentration

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PEL : Permissible Exposure Limits

PNEC : Predicted No Effect Concentration

R-phrase : Risk phrase

REACH : Registration, Evaluation, Authorisation and Restriction of Chemicals

RID : Regulation Concerning the International Transport of Dangerous Goods by Rail

S-phrase: Safety phrase

WGK : German Water Hazard Class