

SAFETY DATA SHEET

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

1.1 Product identifiers

Product name : 1-Methyl-2-pyrrolidinone
Product Number : M103246
Brand : aladdin
CAS-No. : 872-50-4

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

Identified uses : Laboratory chemicals, Manufacture of substances.

1.3 Company

Company : ALADDIN SCIENTIFIC CORPORATION
Address : 14078 Meridian Parkway,
Riverside, CA. 92518
Telephone : +1 (833) 552-7181
Fax : no data available

1.4 Emergency telephone number

CHEMTREC®, Inside the USA : 1-800-424-9300
CHEMTREC®, Outside the USA :

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Acute toxicity (oral) grade 5 skin

corrosion/irritation grade 2 severe

injury/irritation Eyes Class 2A

reproductive toxicity class 1b-specific

target organ toxicity, respiratory tract irritation, anaesthetic effect-specific

target organ toxicity, liver, bone marrow, nervous system lung

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

H227	Combustible liquid
H303	May be harmful if swallowed
H315	Causes skin irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation
H360	May damage fertility or the unborn child

Precautionary statement(s)

P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash hands [and ...] thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P321	Specific treatment (see ... on this label).
P302+P352	IF ON SKIN: wash with plenty of water.
P304+P340	IF INHALED: Remove person to fresh air and keep 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.
P362+P364	Take off contaminated clothing and wash it before reuse.
P405	Store locked up.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P501	Dispose of contents/container to an approved waste disposal plant.
P203	Obtain, read and follow all safety instructions before use.
P264+P265	Wash hands [and ...] thoroughly after handling. Do not touch eyes.
P318	if exposed or concerned, get medical advice.
P337+P317	If eye irritation persists: Get medical help.
P332+P317	If skin irritation occurs: Get medical help.
P319	Get medical help if you feel unwell.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms	: 1-甲基-2-吡咯烷酮 ; N-甲基-2-吡咯烷酮
Formula	: C ₅ H ₉ NO
Molecular weight	: 99.13
CAS No.	: 872-50-4
EC-NO.	: 212-828-1

Component	Classification	Concentration
1-Methyl-2-pyrrolidinone	no data available	electronic grade, ≥99.9%

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

Show this material safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

In case of eye contact

After eye contact: rinse out with plenty of water. Remove contact lenses.

If swallowed

After swallowing: Drink immediately (up to 2 cups). If you feel unwell, consult a doctor.

4.2 Most important symptoms and effects, both acute and delayed

no data available

4.3 Indication of any immediate medical attention and special treatment needed

no data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Dry powder, foam, water mist, carbon dioxide

Unsuitable extinguishing media

no data available

5.2 Special hazards arising from the substance or mixture

Carbon oxide nitrogen oxide Flammable Vapor is heavier than air, so it can spread over the ground. It forms an explosive mixture with air under rapid heating Hazardous gases or vapors may be generated in case of fire

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

Use water spray to cool unopened containers.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel: Avoid inhalation of dusts. Evacuate the danger area, observe emergency procedures, consult an expert.

6.2 Environmental precautions

If safety is ensured, measures can be taken to prevent further leakage or spillage. Don't let the product go down the drain.

6.3 Methods and materials for containment and cleaning up

Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage**7.1 Precautions for safe handling**

Operate under a fume hood. Do not inhale substances/mixtures. Avoid generating steam or smoke. Stay away from open flames, hot surfaces, and ignition sources. Take measures to prevent electrostatic discharge. Change contaminated clothes immediately. Use skin protection lotion. Wash hands and face after using this substance.

7.2 Conditions for safe storage, including any incompatibilities

Sensitive to light, humidity, heat, and air. Store at room temperature, away from light, and dry with argon gas

7.3 Specific end use(s)

no data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN166(EU).

Skin protection

Gloves must be checked before use. Please use proper methods to remove the gloves (do not touch the outer surface of the gloves), and avoid any skin parts contacting the product. After use, please handle the contaminated gloves carefully according to relevant laws and regulations and effective laboratory rules and procedures. Please clean and blow dry the protective gloves selected for your hands must meet the specifications given in regulation (EU) 2016 / 425 and the en 374 standard derived from it.

Body Protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a fullface respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance

form: liquid color: colorless

b) Odour	no data available
c) Odour Threshold	no data available
d) pH	7.7 - 8
e) Melting point/freezing point	-24 °C (-11 °F)
f) Initial boiling point and boiling range	202~204 °C
g) Flash point	91 °C (196 °F) - closed cup
h) Evaporation rate	no data available
i) Flammability (solid, gas)	no data available
j) Upper/lower flammability or explosive limits	Upper explosion limit: 9.5 %(V) Lower explosion limit: 1.3 %(V)
k) Vapour pressure	0.39 - 0.43 hPa at 20 °C
l) Vapour density	3.42 - (Air = 1.0)
m) Relative density	1.028 g/mL at 25 °C
n) Water solubility	no data available
o) Partition coefficient: n-octanol/water	log Pow: -0,46
p) Auto-ignition temperature	no data available
q) Decomposition temperature	no data available
r) Viscosity	no data available
s) Explosive properties N	no data available
t) Oxidizing properties N	no data available

9.2 Other safety information

no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

Stable under recommended storage conditions

10.3 Possibility of hazardous reactions

Sensitive to light, humidity, heat, and air

10.4 Conditions to avoid

Sensitive to moisture

10.5 Incompatible materials

no data available

10.6 Hazardous decomposition products

no data available

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 orally - rat - male and female - 4150 mg/kg

(OECD Test Guideline 401)

LC50 inhalation - rat - male and female - 4 h - > 5.1 mg/l - aerosol

(OECD Test Guideline 403)

LD50 percutaneous rat male and female > 5000 mg/kg

(OECD Test Guideline 402)

Skin corrosion/irritation

no data available

Serious eye damage/eye irritation

no data available

Respiratory or skin sensitisation

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

no data available

Reproductive toxicity

May cause harm to the fetus. May cause harm to fertility.

Specific target organ toxicity - single exposure

no data available

Specific target organ toxicity - repeated exposure

no data available

Aspiration hazard

no data available

Additional Information

Repeated toxicity - Rabbit - male - percutaneous - 20 days - level at which no harmful effect is observed - 826 mg/kg

- harmful effect is observed

Minimum level of - 1653 mg/kg

Remarks: subacute toxicity

Registration of toxic effects of chemical substances: uy5790000

Prolonged or repeated exposure may cause: vomiting, diarrhea, abdominal pain, rats exposed to 1mg/l 1-methyl-2-methylpyrrolidone aerosol continuously

On the 10th day, bone marrow hematopoietic cells were damaged and lymphoid tissue in thymus, spleen and lymph nodes atrophied

To our knowledge, this chemical, physical and toxic property has not been fully studied.

Bone marrow - Irregular - based on human evidence

SECTION 12: Ecological information

12.1 Toxicity

Static toxicity test on fish LC50 - *Oncorhynchus mykiss* - (rainbow trout) - > 500 mg/l - 96 h remarks: (ECHA)

Toxicity to *Daphnia magna* and other aquatic invertebrates EC50 - *Daphnia magna* - about 4897 mg/l - 48 h remarks: (iuclid)

Static toxicity test on algae EC50 - *desmodesmus subspicatus* (green algae) - 672.8 mg/l - 72 h (German industrial standard (DIN) 38412)

12.2 Persistence and degradability

Biodegradable aerobic - exposure time 28 days Results: 73% - rapidly biodegradable. (OECD Test Guideline 301c)

12.3 Bioaccumulative potential

no data available

12.4 Mobility in soil

no data available

12.5 Results of PBT and vPvB assessment

no data available

12.6 Other adverse effects

no data available

SECTION 13:

13.1 Disposal considerations

Product

Recycle to process, if possible. Consult your local regional authorities and an expert of disposal. You may be able to dissolve or mix material with a combustible solvent and little by little burn in a chemical incinerator equipped with an afterburner and scrubber system. If a large amount of the substance is burned at a time, an explosion may occur. Observe all federal, state and local regulations when disposing of the substance.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information

DOT (US)

UN number: no data available	Packing group: no data available	Class: no data available
Proper shipping name: Non dangerous goods	Reportable Quantity(RQ): no data available	Poison Inhalation Hazard: no data available
Environmental Hazards: no		

IMDG

UN number: no data available	Packing group: no data available	EMS-No: no data available
Proper shipping name: Non dangerous goods		

IATA

UN number: no data available	Packing group: no data available	Class: no data available
Proper shipping name: Non dangerous goods		

SECTION 15: Regulatory information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

SECTION 16: Other information

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