



Safety Data Sheet

according to Regulation (EC) No. 1907/2006

Version 01 Issuing Date: 2016-04-20

Print Date: 2016-08-31

1 Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product identifiers

Product name: 2-Pyrrolidone

EINECS Name: 2-pyrrolidone

TSCA Name: 2-Pyrrolidinone

CAS-No.: 616-45-5

EC No.: 210-483-1

Molecular Formula: C₄H₇NO

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

Identified uses: Laboratory chemicals, Manufacture of substances. For research use only.

Not intended for human or animal diagnostic or therapeutic uses.

1.3 Details of the supplier of the safety data sheet

Company: Boai NKY Pharmaceuticals Ltd.

Address: No.1888 East Wenhua Road, Boai, Jiaozuo, Henan, China 454450

Tel.: +86 391 8696320

Fax: +86 391 8692950

Email address: sales@china-pvp.com

1.4 Emergency telephone number

+86 22 58316066

2 Hazards Identification

In accordance with local and national regulations.

The product is classified and labelled in accordance with Directive 1999/45/EC, Regulation (EC) No1272/2008. Classification according to EU Directives 67/548/EEC or 1999/45/EEC.

2.1 GHS – Classification

Signal Word

Warning



Health hazard

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Specific target organ systemic toxicity (single exposure)	Category 3
Reproductive toxicity	Category 2



Safety Data Sheet

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Physical Hazards

Not hazardous.

Hazard statements

H315 – Causes skin irritation

H319 – Causes serious eye irritation

H335 – May cause respiratory irritation

H361 – Suspected of damaging fertility or the unborn child

Precautionary Statements

P304+P340-IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breath.

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 CENTRE 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.

2.2 European Union

European Union



EU Specific Hazard Statements

R-phrase(s)

R63-Possible risk of harm to the unborn child.

R36/37/38-Irritating to eyes, respiratory system and skin.

S-phrase(s)

S26-In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S24/25- Avoid contact with skin and eyes.

S36/37/39-Wear suitable protective clothing, gloves and eye/face protection.

Principle Routes of Exposure/

Potential Health Effects

Eyes: Irritating to eyes.



Safety Data Sheet

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Skin: Irritating to skin.

Inhalation: Irritating to respiratory system.

Ingestion: May be harmful if swallowed. Ingestion may cause gastrointestinal irritation,
Nausea, vomiting and diarrhea.

Specific effects

Carcinogenic effects: None.

Mutagenic effects: None.

Reproductive toxicity: May cause harm to the unborn child.

Sensitization: None.

Target Organ Effects: None under normal use conditions.

3 Composition/Information on Ingredients

Mixtures

Chemical Name	CAS-No.	EINECS-No.	Weight percent
2-Pyrrolidinone	616-45-5	210-483-1	≥99.50%
Water	7732-18-5	215-185-5	≤0.10%
Other impurities	N/A	N/A	Others except 2-Pyrrolidinone and water

We recommend handling all chemicals with caution.

4 First Aid Measures

4.1 Eye Contact:

Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Do not use an eye ointment. Seek medical attention.

4.2 Skin Contact:

After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cold water may be used.

Cover the irritated skin with an emollient. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.

4.3 Serious Skin Contact:

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

4.4 Inhalation:

Move to fresh air. If not breathing, give artificial respiration. Call a physician or Poison Control Centre immediately

4.5 Ingestion:

Do not induce vomiting. Examine the lips and mouth to ascertain whether the tissues are damaged,



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a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive.

Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

5 Firefighting Measures

- 5.1 **Suitable extinguishing media:** Water spray. Carbon dioxide (CO₂). Foam. Dry chemical.
 - 5.2 **Special protective equipment for firefighters:** Wear self-contained breathing apparatus and Protective suit.
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6 Accidental Release Measures

- 6.1 **Personal precautions:**
Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Use personal protective equipment.
 - 6.2 **Methods for cleaning up:**
Take up mechanically and collect in suitable container for disposal.
 - 6.3 **Environmental precautions:**
Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.
See Section 12 for additional information.
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7 Handling and Storage

- 7.1 **Precautions for safe handling**
Avoid contact with skin, eyes and clothing. Wear personal protective equipment.
 - 7.2 **Storage**
Keep in a dry, cool and well-ventilated place. Keep in properly labelled containers.
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8 Exposure Controls/Personal Protection

- 8.1 **Engineering Controls:**
Ensure adequate ventilation, especially in confined areas.
 - 8.2 **Personal Protective Equipment:**
Hand protection: Impervious gloves.
Eye protection: Safety glasses with side-shields.
Skin and body protection: Lightweight protective clothing.
Hygiene measures: Handle in accordance with good industrial hygiene and safety practice.
Respiratory protection: In case of insufficient ventilation wear suitable respiratory equipment.
 - 8.3 **Environmental exposure controls:**
Prevent product from entering drains. Do not allow material to contaminate ground water system.
 - 8.4 **Exposure Limits:**
Not available.
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9 Physical and Chemical Properties

- 9.1 Information on basic physical and chemical properties
Appearance ($\geq 25^{\circ}\text{C}$) Form: clear liquids
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b) Odour	Color: colorless or light yellow
c) Odour Threshold	no data available
d) pH	no data available
e) Melting point/freezing point	24°C
f) Boiling point	245 °C
g) Specific Gravity	1.12 (Water=1)
h) Vapor Pressure	no data available
i) Vapor Density	no data available
j) Volatility	no data available
k) Odor Threshold	no data available
l) Water/Oil Dist. Coeff.	no data available
m) Lonicity (in water)	no data available
n) Dispersion Properties	See solubility in water
o) Solubility	Easily soluble in cold water, hot water.

10 Stability and Reactivity

- 10.1 Stability: The product is stable under normal conditions.
- 10.2 Instability Temperature: Not available.
- 10.3 Conditions of Instability: Not available.
- 10.4 Materials to avoid: Strong oxidizing agents. Reducing agents. Strong acids and strong bases.
- 10.5 Hazardous decomposition products: Carbon oxides, Nitrogen Oxides.
- 10.6 Special Remarks on Reactivity: Not available.
- 10.7 Polymerization: None under normal processing.

11 Toxicological Information

Acute toxicity

Chemical Name	LD50(oral, rat/mouse)	LD50(dermal, rat/rabbit)	LC50(inhalation, rat/mouse)
2-pyrrolidone	>3200mg/kg (Rat)	No data available	No data available

Principle Routes of Exposure/

Potential Health effects

Eyes: Irritating to eyes.

Skin: Irritating to skin.

Inhalation: Irritating to respiratory system.

Ingestion: May be harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

Carcinogenic effects: None.

Mutagenic effects: None.



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Reproductive toxicity: May cause harm to the unborn child.

Sensitization: None.

Target Organ Effects: None under normal use conditions.

12 Ecological Information

12.1 Ecotoxicity Effects: No information available.

12.2 Mobility: No information available.

12.3 Biodegradation: No information available.

12.4 Bioaccumulation: No information available.

Chemical Name	Freshwater Algae Data	Water Flea Data	Freshwater Fish Species Data	Microtox Data	Log Pow
2-Pyrrolidinone 616-45-5	Desmodesmus subspicatus EC50=250 mg/L (72 h) Desmodesmus subspicatus EC50=84 mg/L(96 h)	Daphnia magna LC50=3.4 mg/L (96 h)			LogPow-0.71

13 Disposal Considerations

Dispose of in accordance with local regulations.

14 Transport Information

IATA

Proper shipping name: Not classified as dangerous in the meaning of transport regulations.

Hazard class: None.

Subsidiary Class: None.

Packing group: None.

UN-No: None.

15 Regulatory Information

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

International Inventories

Chemical Name	EINECS	ELINCS	ENCS	PICCS
2-Pyrrolidinone	Listed	--	Listed	Listed
Chemical Name	AICS	KECL	DSL	NDSL
2-Pyrrolidinone	Listed	Listed	Listed	--



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16 Other Information

Further information

The above information is believed to be correct, but does not intend to be all-inclusive and shall be used only as a guide. This material safety data sheet is based on our current knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any assurances on product properties and does not constitute a contractual legal relationship.

Boai NKY Pharmaceuticals Ltd. and its Affiliates shall not be held liable for any damage resulting from the handling or from the contact with the above product.

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