



Safety Data Sheet

according to Regulation (EC) No. 1907/2006

Version 02 Issuing Date: 2020-12-10

Review Date: 2021-04-14

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

1.1 Product identifiers

Product name: N-Vinylcaprolactam

Brand name: NKY

CAS-No.: 2235-00-9

REACH Registration No.: 01-2119977109-27-0007

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

Identified uses: Laboratory chemicals, Manufacture of substances.

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 Province, China 454450.

Tel.: +86 391 8696320

Fax: +86 391 8692950

Email address: sales@boai-nky.com

1.4 Emergency telephone number

Emergency Phone #: +86 22 58316066

2. Hazards Identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008

Acute toxicity, Oral (Category 4), H302

Acute toxicity, Dermal (Category 4), H312

Eye irritation (Category 2), H319

Skin sensitisation (Category 1), H317

Specific target organ toxicity - repeated exposure (Category 1), Liver, Upper respiratory tract, H372

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal word

Danger

Hazard statement(s)

H302 + H312

Harmful if swallowed or in contact with skin.

H317

May cause an allergic skin reaction.

H319

Causes serious eye irritation.

H372

Causes damage to organs (/S/*_ORGAN_REPEAT\$/) through prolonged or repeated exposure.



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Precautionary statement(s)

P260	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P280	Wear protective gloves/ protective clothing.
P301 + P312 + P330	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Supplemental Hazard Statements	none

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

3. Composition/Information on ingredients

3.1 Substances

Formula : $C_8H_{13}NO$

Molecular weight : 139,19 g/mol

CAS-No. : 2235-00-9

EC-No. : 218-787-6

Hazardous ingredients according to Regulation (EC) No 1272/2008

Component	Classification	Concentration
1-Vinylhexahydro-2H-azepin-2-one		
CAS-No. 2235-00-9	Acute Tox. 4; Eye Irrit. 2; Skin	< = 100%
EC-No. 218-787-6	Sens. 1; STOT RE 1; H302, H312, H319, H317, H372	

For the full text of the H-Statements mentioned in this Section, see Section 16.

4. First Aid Measures

4.1 Description of first aid measures

General advice

Consult a physician. Show this 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

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.



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4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.

4.3 Indication of any immediate medical attention and special treatment needed

No data available.

5. Firefighting Measures

5.1 Extinguishing media:

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Carbon oxides, Nitrogen oxides (NO_x).

5.3 Advice for firefighters

Wear self contained breathing apparatus for firefighting if necessary.

5.4 Further information

No data available.

6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

For personal protection see section 8.

6.2 Environmental precautions

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

6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

7. Handling and Storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

Recommended storage temperature 2 - 8 ° C

Storage class (TRGS 510): Non-combustible, acute toxic Cat.3 / toxic hazardous materials or hazardous materials causing chronic effects.

7.3 Specific end use(s)



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Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

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 EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the Standard EN374 derived from it.

Body protection

Complete suit protecting against chemicals. 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 full-face particle respirator type N99 (US) or type P2 (EN 143) 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.

9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

a) Appearance	Form: solid Color: off-white
b) Odour	No data available
c) Odour Threshold	No data available
d) pH	No data available
e) Melting point/freezing point	No data available
f) Initial boiling point and boiling range	128°C at 28 hPa - lit.



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g) Flash point	101 °C - 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: 6,5 %(V) Lower explosion limit: 1,4 %(V)
k) Vapour pressure	< 0,1 hPa at 20 °C 1,6 hPa at 70 °C
l) Vapour density	No data available
m) Relative density	1,029 g/cm ³ at 25 °C
n) Water solubility	ca.4,1 g/l
o) Partition coefficient: n-octanol/water	log Pow: 1,2
p) Auto-ignition temperature	No data available
q) Decomposition temperature	No data available
r) Viscosity	6,16 mm ² /s at 20 °C - 3,50 mm ² /s at 40 °C -
s) Explosive properties	No data available
t) Oxidizing properties	No data available

9.2 Other safety information

No data available.

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

No data available

10.4 Conditions to avoid

Heat

10.5 Incompatible materials

acids, Oxidizing agents, Polymerizing initiators, Free radical initiators

10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NO_x)

Other decomposition products - No data available

In the event of fire: see section 5

11. Toxicological Information

11.1 Information on toxicological effects

Acute toxicity

No data available



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LD50 Dermal - Rabbit - male and female - 1.700 mg/kg

(OECD Test Guideline 402)

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Eye irritation

Respiratory or skin sensitization

in vivo assay - Mouse

Result: May cause sensitisation by skin contact.

(OECD Test Guideline 429)

Germ cell mutagenicity

No data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

No data available

Specific target organ toxicity – single exposure

Specific target organ toxicity – repeated exposure

The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 1. - Liver, Upper respiratory tract

Aspiration hazard

No data available

Additional Information

RTECS: Not available

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

12. Ecological Information

12.1 Toxicity

Toxicity to fish	LC50 - Brachydanio rerio (zebrafish) - 318 mg/l - 96 h(1-Vinylhexahydro-2H-azepin-2-one) (OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates	- Daphnia magna (Water flea) - > 100 mg/l - 48 h(1-Vinylhexahydro-2H-azepin-2-one)
Toxicity to algae	EC50 - Desmodesmus subspicatus (green algae) - > 100 mg/l - 72 h(1-Vinylhexahydro-2H-azepin-2-one)

12.2 Persistence and degradability



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Biodegradability Result: - Readily biodegradable

12.3 Bioaccumulation potential

No bioaccumulation is to be expected (log Pow <= 4).

12.4 Mobility in soil

No data available(1-Vinylhexahydro-2H-azepin-2-one)

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

No data available

13. Disposal Considerations

13.1 Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging

Dispose of as unused product.

14. Transport Information

14.1 UN number

ADR/RID: --

IMDG: --

IATA: --

14.2 UN proper shipping name

ADR/RID: Not dangerous goods

IMDG: Not dangerous goods

IATA: Not dangerous goods

14.3 Transport hazard class(es)

ADR/RID: --

IMDG: --

IATA: --

14.4 Transport group

ADR/RID: --

IMDG: --

IATA: --

14.5 Environmental hazards

ADR/RID: --no

IMDG: Marine pollutant: --no

IATA: --no

14.6 Special precautions for user

No data available

15. Regulatory Information

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

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

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out

16. Other Information



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

H302	Harmful if swallowed.
H302 + H312	Harmful if swallowed or in contact with skin.
H312	Harmful in contact with skin.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H372	Causes damage to organs through prolonged or repeated exposure.

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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