

Safety Data Sheet: N-Vinyl-2-pyrrolidone

1. Identification

Product	N-Vinyl-2-pyrrolidone; CAS 88-12-0; EC 201-800-4
Use	Industrial vinyl-monomer and polymer manufacture; not intended for the general public.
Company	Hainan Zhongxin Chemical Co., Ltd. (ZXCHEM)
Address	Room 1001, Building A, Caohejing Center, No. 1520 Gumei Road, Xuhui District, Shanghai, China
Telephone / email	+86-21-54265599 / sales@zxchem.com.cn
Emergency contact	ZXCHEM office number above, office hours, China time (UTC+8). For urgent medical assistance contact local emergency services.
Scope	Reference safety information for N-Vinyl-2-pyrrolidone. The reference composition, concentration and supply-grade differences are described in Section 3. This document does not certify the composition or transport status of a specific delivered batch or a different formulation.

2. Hazards Identification

Classification	Acute toxicity Category 4 (oral, dermal and inhalation mist); serious eye damage Category 1; carcinogenicity Category 2; single-exposure respiratory irritation Category 3; repeated-exposure target-organ toxicity Category 2; acute aquatic hazard Category 3.
Signal word / symbols	Danger; GHS05, GHS07, GHS08
Hazard statements	H302/H312/H332: harmful through ingestion, skin contact or inhalation. H318: serious eye damage. H335: respiratory irritation. H351: suspected carcinogenicity. H373: possible repeated-exposure liver damage. H402: harmful to aquatic life.
Prevention	Use adequate ventilation; avoid inhaling mist. Prevent skin and eye contact. Wear suitable chemical-resistant gloves and eye protection. Wash after handling; keep food and drink out of the work area.
Response	After exposure, stop work and seek medical advice. For severe exposure obtain urgent medical care. Rinse contaminated skin or eyes with water; move an inhalation casualty to fresh air.
Environment	Prevent uncontrolled release to drains, soil or surface water. Collect spills for appropriate disposal.



3. Composition / Information on Ingredients

Reference ingredient	Reference: NVP CAS 88-12-0 at ≥99.5–≤100%; 2-pyrrolidone CAS 616-45-5 at ≥0.1–≤1%. Listed source concentration bands are not a batch analysis and must not be added as an exact formulation.
Supply grade	≥99.5%
Applicability	The cited concentration or purity describes the reference material. It is not a certificate of analysis for the delivered batch; different solvents or dilutions require the matching supplier safety document.

4. First-Aid Measures

General	Protect the rescuer from exposure and show the product information to medical personnel. Obtain medical advice if symptoms occur or exposure is significant.
Inhalation	Move to fresh air and keep the person comfortable. Seek medical care for breathing difficulty or persistent symptoms. Avoid exposing rescuers to mist.
Skin	Remove contaminated clothing and rinse skin thoroughly with water. Seek medical advice for persistent irritation.
Eyes	Rinse gently with clean water for at least 15 minutes. Remove contact lenses when easy and continue rinsing. Obtain urgent medical care.
Ingestion	Rinse the mouth. Do not induce vomiting. Give nothing by mouth to an unconscious person. Obtain medical advice.
Effects / treatment	May injure eyes, harm through acute exposure and affect liver after repeated exposure; suspected carcinogenicity requires controlled professional handling. Treatment is symptomatic and directed by a clinician.

5. Fire-Fighting Measures

Extinguishing media	Use water spray, foam, dry chemical or carbon dioxide suited to the surrounding fire.
Hazards	Heating or fire can release hazardous nitrogen-containing and carbon-oxide fumes. Reactive-monomer heating must follow controlled procedures.
Protection	Firefighters require suitable protective clothing and self-contained breathing equipment. Prevent contaminated firefighting water entering drains.

6. Accidental Release Measures

Personnel	Isolate the spill and provide ventilation. Use chemical-resistant gloves and eye protection; avoid contact and mist exposure.
Environment	Contain the release and protect drains and waterways. Report significant environmental contamination to the responsible authority.
Cleanup	Stop the leak if safe. Absorb liquid with a compatible inert material and collect in closed labelled containers. Do not wash into drains.

7. Handling and Storage

Handling	Use controlled transfer and effective ventilation. Avoid generating mist and prevent contamination of the work area.
Storage	Keep in closed original containers in a ventilated area, separated from acids and acid-forming substances. Control storage temperature and preserve the grade-specific stabilization and nitrogen-blanketing arrangements; avoid prolonged heating.
Incompatibilities	Acids and acid-forming substances. Maintain the stabilization and storage conditions for the selected grade.
Specific use	Evaluate compatibility and appropriate operating conditions in the complete formulation before industrial use.

8. Exposure Controls / Personal Protection

Exposure limits	The reference lists ACGIH US TWA 0.05 ppm for NVP. Provide local extraction and apply the limits relevant to the workplace.
Engineering controls	Use local extraction where mist can be generated. Maintain accessible eyewash and emergency washing facilities.
Personal protection	Wear chemical-resistant gloves selected for the task, suitable protective clothing and splash goggles. Add face protection for splash-prone tasks.
Respiratory protection	Use a properly selected respirator under a respiratory-protection program where engineering controls do not adequately limit airborne exposure.
Hygiene	Wash after handling, remove contaminated clothing promptly and do not eat, drink or smoke in the work area.

9. Physical and Chemical Properties

Appearance	Clear, colorless to yellowish liquid at 25°C
Formula / molecular weight	C6H9NO / 111.14 g/mol
Formula, NVP component	C6H9NO
Density, supply TDS	1.03–1.04 g/mL
Crystallization, supply TDS	13–14°C
Storage, EN reference	Nitrogen blanket; <30°C; avoid prolonged >25°C; crystallization protection below 17°C
Other properties	Product-specific values for odor threshold, vapor pressure, partition coefficient, autoignition temperature and viscosity are not supplied by the selected reference set. No values are inferred.

10. Stability and Reactivity

Stability	Handle and store under the recommended conditions. Prevent contamination and unnecessary heating.
Incompatibilities	Acids and acid-forming substances. Maintain the stabilization and storage conditions for the selected grade.
Decomposition	Heating or fire can release hazardous nitrogen-containing and carbon-oxide fumes. Reactive-monomer heating must follow controlled procedures.

11. Toxicological Information

Exposure effects	May injure eyes, harm through acute exposure and affect liver after repeated exposure; suspected carcinogenicity requires controlled professional handling.
Reference classification	Acute toxicity Category 4 (oral, dermal and inhalation mist); serious eye damage Category 1; carcinogenicity Category 2; single-exposure respiratory irritation Category 3; repeated-exposure target-organ toxicity Category 2; acute aquatic hazard Category 3.
Toxicological data	Reference oral rat LD50 1,022 mg/kg, dermal rabbit LD50 1,043 mg/kg and inhalation-mist LC50 3.07 mg/L at 4 h. Liver is the repeated-exposure target organ.

12. Ecological Information

Environmental effects	The reference classifies acute aquatic hazard Category 3. Prevent entry into drains and waterways; numerical results are not interpreted as a safe discharge limit.
Controls	Prevent uncontrolled release, collect spills and dispose of contaminated material through an authorized route.
Assessment	No product-specific PBT/vPvB assessment is claimed. Absence of data does not establish absence of environmental effects.

13. Disposal Considerations

Product	Collect surplus product and contaminated cleanup material for disposal by an authorized chemical-waste contractor in accordance with local requirements.
Packaging	Containers may retain product residues. Do not reuse contaminated packaging without an approved cleaning process; use an authorized disposal route.

14. Transport Information

Classification	Non-dangerous goods
UN number	Not regulated
Shipping name	Not classified as dangerous goods
Class / packing group	USDOT / IMDG / IATA: not classified as dangerous goods. Health-hazard classification still applies.
Transport precautions	Protect packaging and closures from damage, secure loads and prevent releases. This reference is not a shipping declaration for a specific consignment.

15. Regulatory Information

Identity	N-Vinyl-2-pyrrolidone; CAS 88-12-0; EC 201-800-4
HS reference	293379; reference heading rather than a destination customs ruling.
Compliance	Apply applicable workplace, environmental and transport rules. A raw-material listing does not establish authorization for a finished disinfectant or biocidal product.
Assessment	No ZXCHEM-specific chemical safety assessment or destination registration is asserted.

16. Other Information

Hazard meanings	H302/H312/H332: harmful through ingestion, skin contact or inhalation. H318: serious eye damage. H335: respiratory irritation. H351: suspected carcinogenicity. H373: possible repeated-exposure liver damage. H402: harmful to aquatic life.
Limitations	Prepared as reference safety information for the identified material. It is not a batch analytical certificate or safety assessment of a different solvent-containing formulation.
Revision	2026.2; prepared 2026-10-06. Customer-document branding and title corrected; technical safety data retained.
Document scope	Reference safety information for the material and grade described in Sections 1 and 3. Different concentrations, solvents or formulations require the applicable safety information. This is not a batch analytical certificate.

Revision: 2026.2 | Revision date: 2026-10-06