

## Product Data Sheet

Product Name: Polyvinylpyrrolidone (PVP) (M.W.~360000)

Cat. No.: GC26716

### Chemical Properties

Cas. No. 9003-39-8

Formula  $(C_6H_9NO)_n$

M.Wt 360000

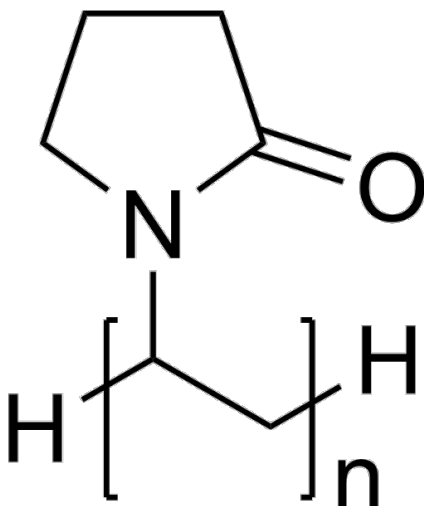
Solubility

Storage Store at RT

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure



### Background

Polyvinylpyrrolidone (PVP) (M.W.~360000), a water-soluble polymer obtained by polymerization of monomer N-vinylpyrrolidone<sup>[1]</sup>. Polyvinylpyrrolidone exhibits inert, non-toxic, temperature-resistant, pH-stable, biocompatible, biodegradable properties, which helps to encapsulate and cater both

**Caution: Product has not been fully validated for medical applications. For research use only.**

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hydrophilic and lipophilic drugs<sup>[2]</sup>. Polyvinylpyrrolidone improves the bioavailability of drugs mainly by means of forming solid dispersions (SDs), which could increase the solubility of the active pharmaceutical ingredients (APIs) and promote the penetration of APIs<sup>[3]</sup>. Polyvinylpyrrolidone is widely used as a hydrophilic modifier that mitigates membrane fouling and as an excellent pore-forming agent that increases membrane porosity, thereby enhancing water flux<sup>[4]</sup>.

### References:

- [1] Luo Y, Hong Y, Shen L, et al. Multifunctional role of polyvinylpyrrolidone in pharmaceutical formulations[J]. Aaps Pharmscitech, 2021, 22(1): 34.
- [2] Kurakula M, Rao G S N K. Pharmaceutical assessment of polyvinylpyrrolidone (PVP): As excipient from conventional to controlled delivery systems with a spotlight on COVID-19 inhibition[J]. Journal of drug delivery science and technology, 2020, 60: 102046.
- [3] Koczur K M, Mourdikoudis S, Polavarapu L, et al. Polyvinylpyrrolidone (PVP) in nanoparticle synthesis[J]. Dalton transactions, 2015, 44(41): 17883-17905.
- [4] Hayama M, Yamamoto K, Kohori F, et al. Nanoscopic behavior of polyvinylpyrrolidone particles on polysulfone/polyvinylpyrrolidone film[J]. Biomaterials, 2004, 25(6): 1019-1028.

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