

## PVP-K Series

**Chemical name:** Homopolymer of Vinylpyrrolidone

**CTFA name:** Polyvinylpyrrolidone(shortened form PVP)

**CAS No:** 9003-39-8

**Molecular formula:** (C<sub>6</sub>H<sub>9</sub>NO)<sub>n</sub>

**Character:** powder or aqueous solution, PVP is diffuent in water, alcohol, amine and halohydrocarbon, but is not dissolved in acetone and aether etc.. It has good solubility, biocompatibility, and physiologically inert, film-forming character, colloid protect ability and compound ability to many organic or inorganic compounds. It is also steady to acid, salt and heat, so it is widely used.

### Technical grade quality standard

| Product name                  | K15   | K17   | K25   | K30   | K90   |
|-------------------------------|-------|-------|-------|-------|-------|
| K value                       | 13-18 | 15-19 | 22-28 | 26-33 | 81-97 |
| Efficient content(%)          | >95   | >95   | >95   | >95   | >95   |
| Vinylpyrrolidone (%)          | <0.2  | <0.2  | <0.2  | <0.2  | <0.2  |
| Ash %(sulphate)               | <0.1  | <0.1  | <0.1  | <0.1  | <0.1  |
| Moisture(%)                   | <5.0  | <5.0  | <5.0  | <5.0  | <5.0  |
| PH value(5% aqueous solution) | 3-7   | 3-7   | 3-7   | 3-7   | 3-7   |

### Technical grade PVP application

PVP application in daily used chemical product: In daily used beauties PVP has best dispersivity and film forming characters, it can be used as case-hardened liquid, hair spray, case-hardened agent of mousse, opacifying agent of Hair conditioner, foam stabilizer and wave case-hardened agent of shampoo, dispersant and affinity agent of tint. Adding PVP

in vanishing cream, sunproof cream and depilation agent can increase the wettish and lubricative effect. In addition, adding PVP in detergent can prevent annessl and increase the wash capability.

PVP application in industry and high-tech domain: PVP in dyestuff, paint ink, fiber dye and color kinescope can use as surface cladding agent, dispersant, thickening agent and bond. PVP can improve on the bond ability to metal, glass, plastic and so on. Otherwise, PVP are widely used in separation film, light—cured composite resin, paint, coatings, optical fiber, laser video disk and many other high-tech domain.

### **Pharmaceutical grade quality standard(CP2005,USP26/28/29,EP5)**

| Product name         | k-15      | k-17      | k-30      | k-90      |
|----------------------|-----------|-----------|-----------|-----------|
| k value              | 14-19     | 15-19     | 27-32     | 82-91     |
| Vinylpyrrolidone (%) | <0.1      | <0.1      | <0.1      | <0.1      |
| Moisture(%)          | <5.0      | <5.0      | <5.0      | <5.0      |
| Ash %(sulphate)      | <0.1      | <0.1      | <0.1      | <0.1      |
| PH value             | 3-7       | 3-7       | 3-7       | 3-7       |
| Nitrogen(%)          | 11.5-12.8 | 11.5-12.8 | 11.5-12.8 | 11.5-12.8 |
| Aldehyde(%)          | <0.05     | <0.05     | <0.05     | <0.05     |
| Heavy metal(PPM)     | <10       | <10       | <10       | <10       |

### **Application of Pharmaceutical grade PVP(polyvidone)**

Povidone is widely used in pharmaceutical area is one of the first three new supplementary materials by international sparkplug. The most widely used area is as bond in troche or pelletized granule. PVP can also use as glidant of capsule, the detoxication agent and lubricant of eyedrop, the cosolvent of injection, the dispersant of liquid preparation and the stabilizer of enzyme and temperature sensing drugs.

Polyvidone can compose PVP-I antiseptic with iodine. PVP uses as low temperature conservant in pharmaceutical area. Tens of Drugs use PVP as supplementary materials