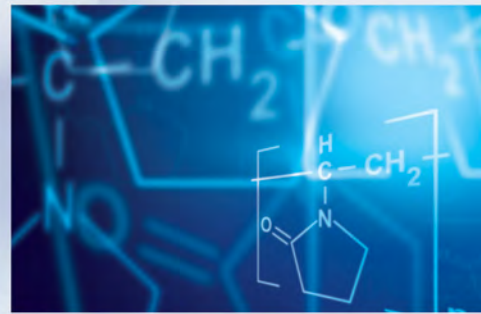


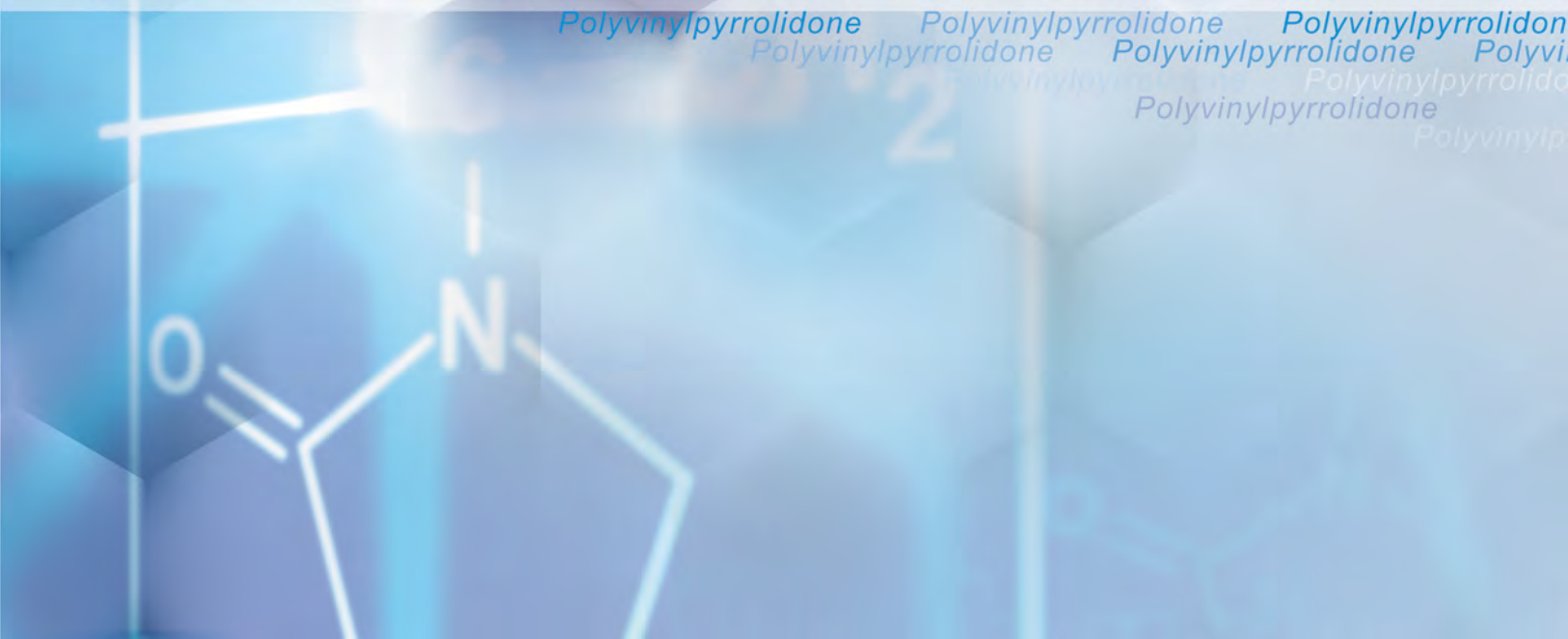


**Rahavard Tamin
Pharmaceutical Co.**

PVP



Polyvinylpyrrolidone Polyvinylpyrrolidone Polyvinylpyrrolidone
Polyvinylpyrrolidone Polyvinylpyrrolidone Polyvinylpyrrolidone
Polyvinylpyrrolidone Polyvinylpyrrolidone Polyvinylpyrrolidone
Polyvinylpyrrolidone Polyvinylpyrrolidone Polyvinylpyrrolidone



Rahavard Tamin Pharmaceutical Co. (RTPC)

Rahavard Tamin Pharmaceutical Company adopting the latest technology in the world has succeeded in initiating optimization in the pharmaceutical industry. The monopoly production of vinylpyrrolidone homopolymers by major pharmaceutical companies in today's industrialized world indicates the need for deep and dynamic knowledge on one hand and the importance and strategicity of the product on the other. The policy of this company has always been based on the optimal movement to meet the growing needs of the pharmaceutical industry in accordance with the latest global standards and in line with the cosmetic and other industries.

Currently, we are the exclusive producer of vinyl pyrrolidone homopolymers (PVP) and their derivatives in the Middle East. These products have special properties and are soluble in most solvents and water, and are fully compatible with the environment and widely used in the pharmaceutical industry as binder, the production of various types of gels and pharmaceutical creams, cosmetics as well as other industries such as paint and resin, adhesives, petrochemicals, ceramics, agriculture, nano-fibers, etc. The production of the K30 grade grinder was started at Rahavard Tamin Pharmaceutical Company in 2002 and began to be marketed with K25 in 2004. It turned out in terms of production of monomer; the company became self-sufficient in 2005. Also, with the efforts of experts and the research and development team of the company producing other Povidone grades, the Povidone Iodine (PVPI) product as the main ingredient of the production of iodine disinfectants, the product of methacrylic acid copolymer and ethyl acrylate (Eudrajit L30D-55, L100-55), A variety of colored film tablet coating (opa-dry) and 2-pyrrolidone solvent were produced in the company's product portfolio.

Today, Rahavard Tamin Pharmaceutical Company, providing its product in accordance with World Drug Standards (EP, USP, BP, ...), and international standards including ISO9001/ 2008, ISO14001: 2004, OHSAS 18001: 2007 and GMP is able to meet the demand of all domestic industries and to export this material.



**Rahavard Tamin
Pharmaceutical Co.
(RTPC)**

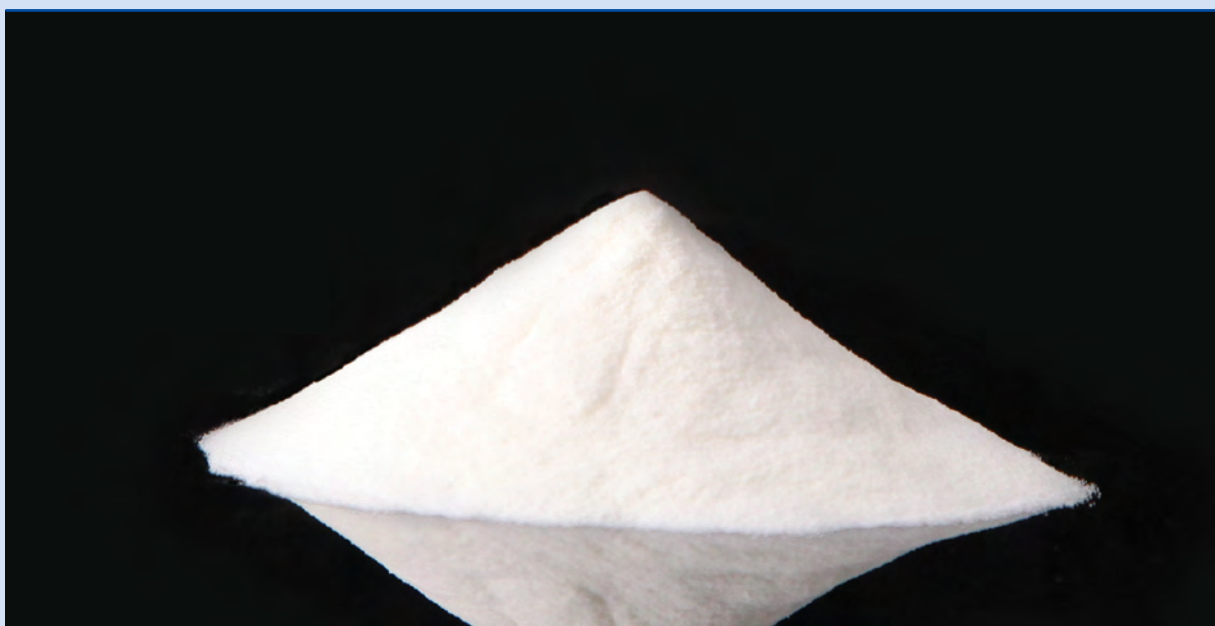
Products List



- RT.PVP K17
- RT.PVP K25
- RT.PVP K30
- RT.PVP K90, RT.PVP K90 20% solution
- RT.PVPI
- RT.COAT L30D-55, RT.COAT L100-55
- RT.FILM NOR, RT.FILM EZE
- RT.SOKALIX
- RT.2P

RT.PVP-K17

Polyvinyl Pyrrolidone



Specifications

- White, pale yellow powder
- Ability to dissolve in water and more polar solvents
- Ineffective in terms of biocompatibility
- Ability to form film and complex with other molecules

Applications

The major use of this product is in the pharmaceutical industry as a co-solvent for low-solubility drugs and injectable drugs. Also, in some cases, it is used as anti-crystalline in syrups and liquid drugs and stabilizing enzymes and thermal sensitive agents.

Chemical name

Polyvinyl Pyrrolidone

USP name: Povidone

CAS No.: 9003-39-8

Chemical structure

homopolymer vinyl pyrrolidone

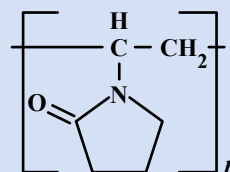
Molecular formula

$[C_6H_9NO]_n$

Molecular weight

7,000 - 12,000

Molecular structure



RT.PVP-K25

Polyvinyl Pyrrolidone



Specifications

- White, pale yellow powder.
- Ability to dissolve in water and more polar solvents
- Ineffective in terms of biocompatibility
- The ability to form a complex with other molecules
- The ability to form films
- Intrinsic adhesion

Applications

The main use of this product in the pharmaceutical industry is as a binder of tablets and granules, anti-deposition and anti-crystalline agent in syrups, the former of protective films for effective food ingredients, some coatings and etc.

Chemical name

Polyvinyl Pyrrolidone

USP name: Povidone

CAS No.: 9003-39-8

Chemical structure

homopolymer vinyl pyrrolidone

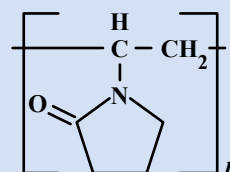
Molecular formula

$[C_6H_9NO]_n$

Molecular weight

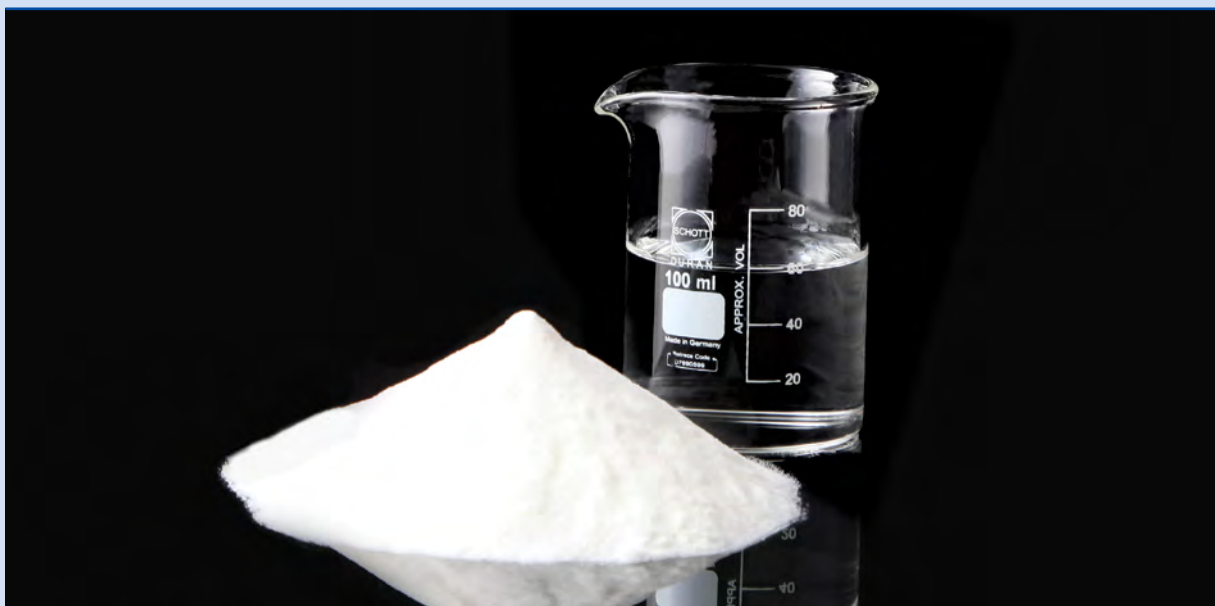
28,000 - 34,000

Molecular structure



RT.PVP-K30 (Powder, 35% Solution)

Polyvinyl Pyrrolidone



Specifications

- White, pale yellow powder.
- Ability to dissolve in water and more polar solvents
- Ineffective in terms of physiology and biocompatibility
- Lack of unpleasant skin sensation
- The ability to form a complex with other molecules
- The ability to form films
- Intrinsic adhesion

Applications

In the pharmaceutical industry as a binder for tablets and granules, co-solvent for low solubility drugs and injectable drugs, anti-deposition and anti-crystalline agent in syrups and liquid drugs, stabilizing enzymes and thermal sensitive agents, protective film is used for active dietary ingredients and some tablet coats. In addition, it is used as a raw material for the production of disinfectant complexes such as Povidone-Iodine and Proxidone (PVP-H₂O₂). In cosmetics, as binder in hair spray, emulsion stabilizers, suspending agent, hair fixative and film former are used. In the resin and paint industry, it is used to improve the quality of the product, stabilize and maintain the composition of the pigment content in the product and improve the uniform coloring. Various applications of this product have been reported in the industry of adhesives and inks, petrochemicals, ceramics and etc.

Chemical name

Polyvinyl Pyrrolidone

USP name: Povidone

CAS No.: 9003-39-8

Chemical structure

homopolymer vinyl pyrrolidone

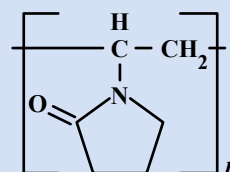
Molecular formula

[C₆H₉NO]_n

Molecular weight

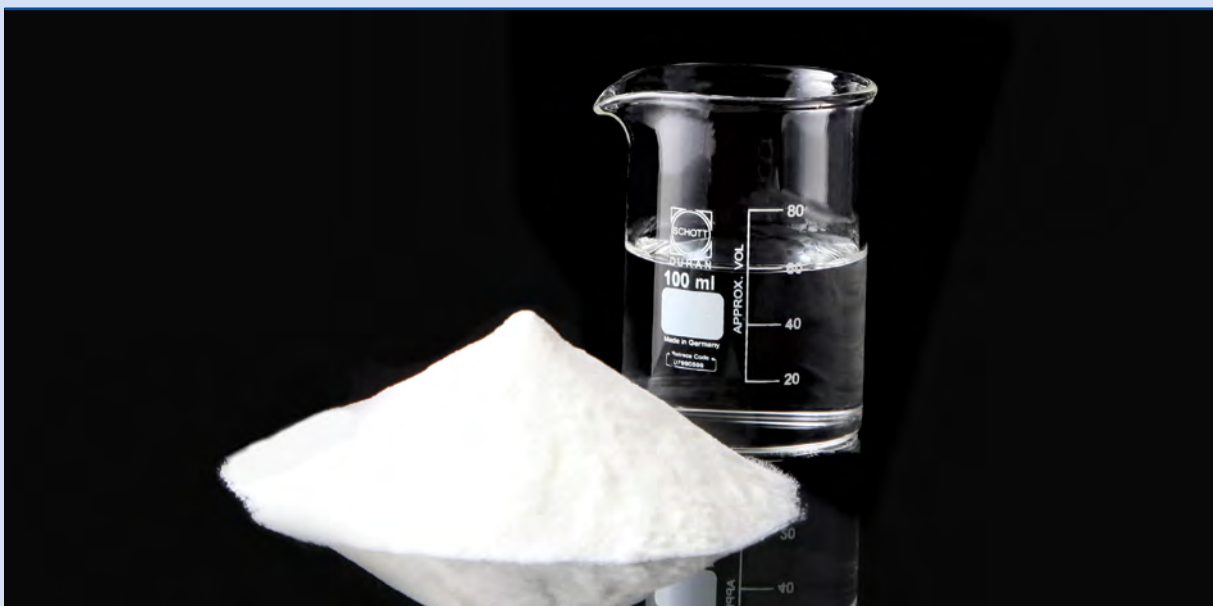
40,000 - 80,000

Molecular structure



RT.PVP-K90 (Powder, 20% Solution)

Polyvinyl Pyrrolidone



Specifications

- White powder, 20% water solution.
- Ability to dissolve in water and more polar solvents
- Ineffective in terms of physiology and biocompatibility
- Lack of unpleasant skin sensation
- The ability to form a complex with other molecules
- The ability to form films
- Intrinsic adhesion
- Rheology modifier
- Constant viscosity of PVP solutions in a wide range of PH

Applications

The main use of this product in the pharmaceutical industry is as binder of tablets and granules.

In the cosmetic industry, as an adhesion enhancer, hair fixative and film former is used in hair gel and some creams and lotions. Also, use in hair color increases color durability and improve the dispersion of pigments.

In paint and resin industries, it is used as a water based emulsifier and in the adhesive industry as a water-based adhesive and environmentally friendly adhesive.

Chemical name

Polyvinyl Pyrrolidone

USP name: Povidone

CAS No.: 9003-39-8

Chemical structure

homopolymer vinyl pyrrolidone

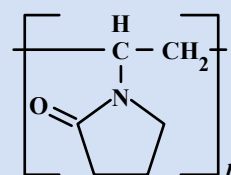
Molecular formula

$[C_6H_9NO]_n$

Molecular weight

1,000 000 - 1,500 000

Molecular structure



RT.FILM (NOR, EZE)



The color coats of the tablet (RT.FILM) are powder mixtures of polymers, plasticizer, pigments, antifoams, surfactants, anti-tacking agents and fillers. To coat the tablets, RT.FILM is dissolved at a specific concentration in water or alcohol and then sprayed on the tablets to form a uniform film with the desired thickness on the tablet core.

The polymer base of RT.FILM is hydroxypropylmethyl cellulose (HPMC), or methacrylic acid copolymer. These coatings are divided into three groups of Immediate Release, Sustained Release and Enteric Release coatings, which are specifically formulated for customer needs.

Specifications

- Color powder according to customer request

Advantages of RT.FILM

- Protecting the tablet core against environmental factors such as sunlight, temperature changes, humidity, environmental gases, etc.
- Facilitate swallow pills/tablets
- Mask undesirable taste and odor of tablets
- Increase the shelf life (product expiration) of the pills/tablets
- Increase the attractiveness of product and brand image
- Easy identification of the product during production
- Possibility of rapid or controlled drug release
- Possibility of release in the base environment (enteric coats)

One of the goals of the company is design, technical support for advanced coating systems, and release technologies for pharmaceutical forms. Customers using coating systems can produce high quality products with the most appropriate cost, performance and superior appearance.

RT.COAT L30D-55, L100-55

Methacrylic Acid-co-Ethyl Acrylate 1:1



Specifications

- Grade L30D-55, dispersion 30% methacrylic copolymer and C-type ethyl acrylate in water
- Grade L100-55, dry powder methacrylic copolymer and type C ethyl acrylate
- Based on dry substance containing 46.0-50.6% methacrylic acid units
- Includes useful surfactant material
- Ability to release drug at pH above 5/5

Applications

- Use in enteric coatings of tablets, pellets and granules
- Used in conjunction with other effective ingredients for the production of sustained-release tablets

Chemical name

Methacrylic Acid-co-Ethyl Acrylate 1:1

USP name: Methacrylic Acid and Ethyl Acrylate Copolymer Dispersion

CAS No.: 25212-88-8

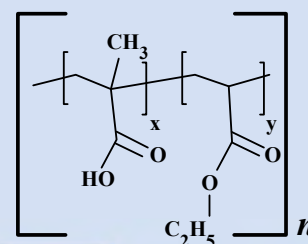
Chemical structure

Methacrylic acid copolymer & ethyl acrylate

Molecular formula

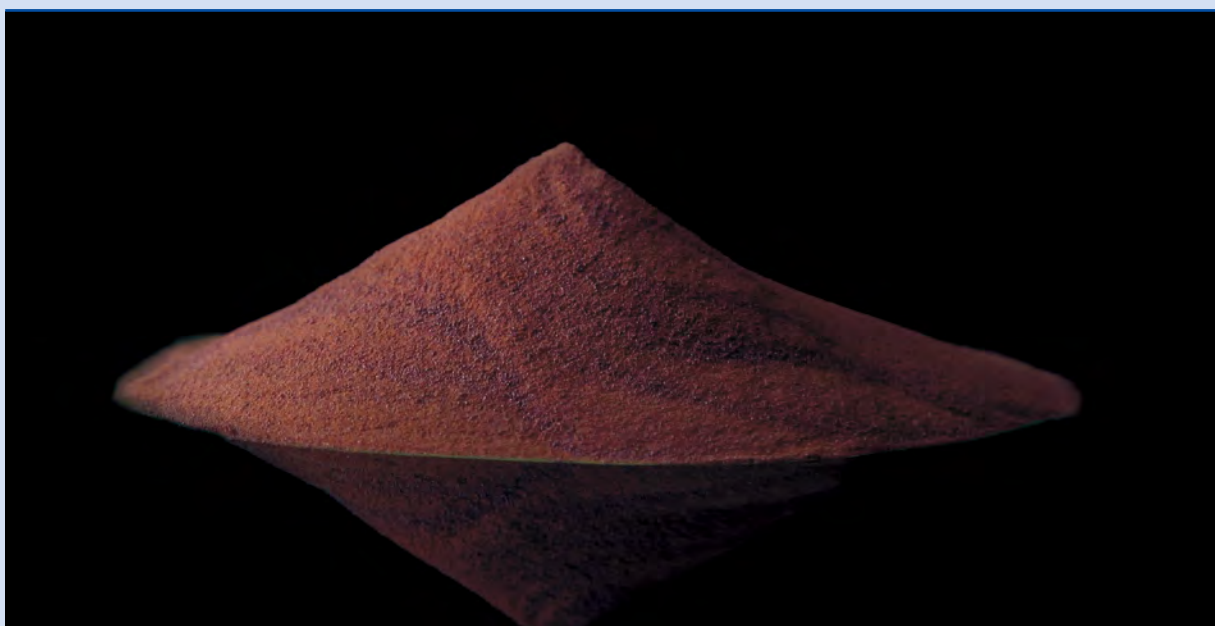
$[C_4H_6O_2]_n-[C_5H_8O_2]_m$

Molecular structure



RT.PVPI

Polyvinyl Pyrrolidone-Iodine



Specifications

- Reddish brown powder with a little smell
- Ability to dissolve in water and ethanol
- Effective in killing viruses, bacteria and fungi, without stimulation

Applications

- The raw material for iodine-base disinfectant solutions
- As a disinfectant against a range of diseases caused by microorganisms
- Used to disinfect the skin and injectable and surgical instruments
- Used to treat vaginal, skin and hair infections
- Highly effective in inactivating human and avian influenza viruses
- As disinfectant in the food, aquaculture and live stock industries to control pathogenic bacteria and reduce their penetration into fish eggs, prevent animal diseases and treat them.

Chemical name

Polyvinyl Pyrrolidone-Iodine

USP name: Povidone Iodine

CAS No.: 25655-47-8

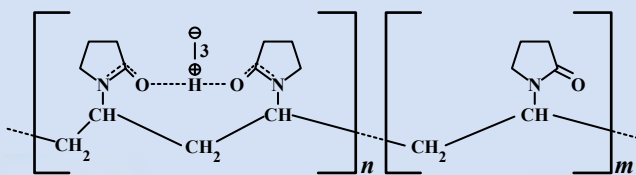
Chemical structure

Polyvinyl pyrrolidone and iodine complex

Molecular formula

$[C_6H_9NO]_n \cdot xI$

Molecular structure



RT.2P

2-Pyrrolidone



Specifications

- Clear and colorless to pale yellow liquid, water-miscible and many organic solvents.

Applications

- The raw material to produce a lot of chemical compounds such as methylpyrrolidone, piracetam, doxapram, ethosuximide.
- Co solvent in water-based digital inkjet ink
- Plasticizer for acrylic resins
- Co solvent for low-solubility drugs, especially livestock injectable drugs such as trimethoprim and oxytetracycline

Chemical name

2-Pyrrolidone

BP name: Pyrrolidone

CAS No.: 618-45-5

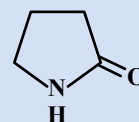
Molecular formula

C_4H_7NO

Molecular weight

85/11 g/mol

Molecular structure



RT.SOKALIX

Polyvinyl Pyrrolidone



Specifications

- Ability to dissolve in water and more polar solvents
- Ineffective in terms of physiology and biocompatibility
- Lack of unpleasant skin sensation
- The ability to form a complex with other molecules
- The ability to form films
- Intrinsic adhesion

Applications

Polyvinylpyrrolidone is widely used in the formulation of detergents (for colored and black cloth). The unique properties of this additive to detergents include:

- 1) Inhibiting dye transfer when washed and protect the fabric color.
- 2) Reducing the effect of chlorine during cloth washing with chlorine water.
- 3) Preventing redeposition of dirt and contamination on the fabric during rinsing and improving the glow of clothing.

In other products such as dishwashing detergents as rheology modifier, and in emulsions and suspensions, as stabilizing and improving the solubility of materials.

Chemical name

Polyvinyl Pyrrolidone

USP name: Povidone

CAS No.: 9003-39-8

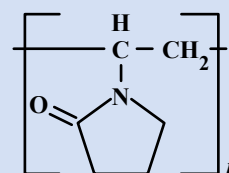
Chemical structure

homopolymer vinyl pyrrolidone

Molecular formula

$[C_6H_9NO]_n$

Molecular structure



Process design, development and control through high scientific methods and equipments make our products compatible with the best in the world.





**Rahavard Tamin
Pharmaceutical Co.**

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