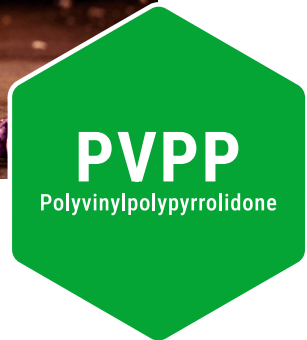


# STARCLEAR PVPP

Proven Excellence for Wine Filtration



Reliable  
Cost-Effective  
Consistent  
Easy to Use





## Why Choose STARCLEAR PVPP for Your Wine Filtration?

STARCLEAR PVPP offers high-quality filtration for wine, comparable to market leaders, resulting in improved supply chain security.

Manufactured in our GMP- and HACCP-certified facility in Chongqing, China, STARCLEAR PVPP ensures consistent quality and high-volume production to meet global demand.

Optimized for efficiency, STARCLEAR PVPP offers a cost-effective solution, making it an ideal choice for the wine making industry.

Supported by our JV partner JRS Rettenmaier & Söhne, Germany and in cooperation with Chongqing University, we deliver top-tier quality driven by international and domestic expertise, advanced R&D, and first-class service.

STARCLEAR PVPP is backed by comprehensive regulatory documentation and certifications, simplifying

supplier qualification and ensuring compliance with international standards.

STARCLEAR PVPP for consistent, high-quality wine stabilization.

### What Makes STARCLEAR PVPP the Right Choice for Wineries?

STARCLEAR PVPP avoids risks related to BSE, TSE, carbohydrate intolerances, and nitrosamines. It is produced without enzymes, dioxins, or PCBs, and contains no elemental impurities listed in the ICH Q3D guideline. STARCLEAR is free from flavors and flavor enhancers, such as nucleotides, is not fumigated, and has no known potential for genotoxic impurities. Additionally, STARCLEAR PVPP is GMO-free, Kosher, and Halal certified.



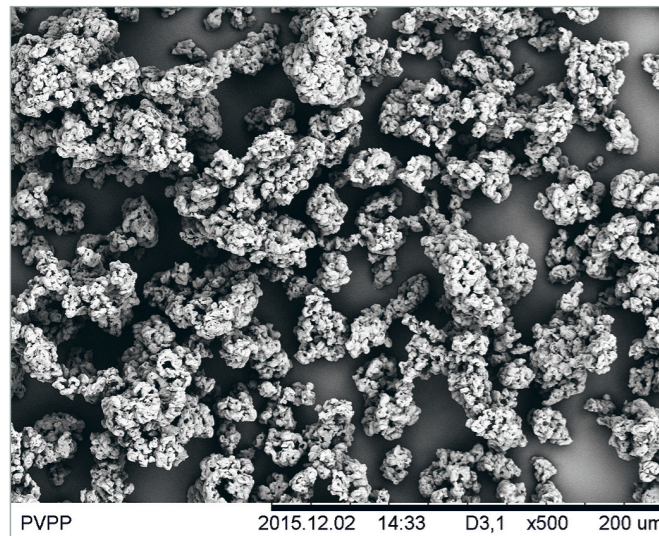
GMP/HACCP Certified Manufacturing Standard

SSP Production Site, Chongqing, China

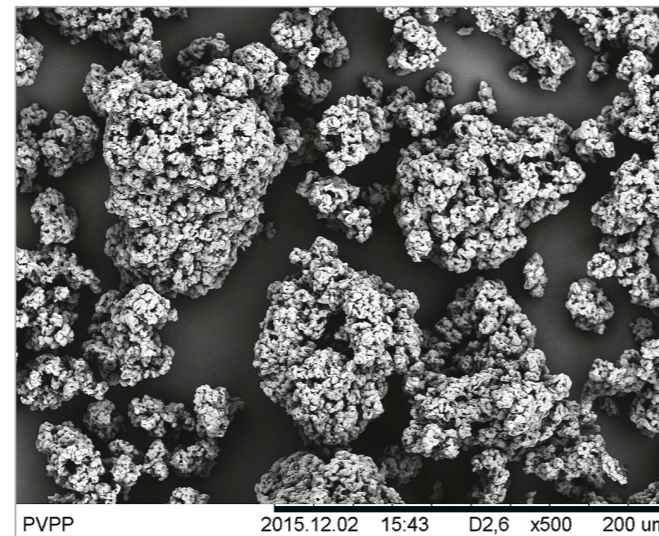
## What is Special about STARCLEAR PVPP?

STARCLEAR is produced from highly pure NVP, featuring minimal impurities and an almost odorless profile. With comprehensive knowledge and control over the raw material, production process, and equipment, we effectively minimize any chance of contamination with aflatoxins, mycotoxins and other impurities.

STARCLEAR PVPP is available in two standard grades, distinguished primarily by particle size, which impacts surface area, swelling properties, and adsorption capacity.



SEM of STARCLEAR F



SEM of STARCLEAR XL

## Why is STARCLEAR PVPP Used by the Winemaking Industry?

STARCLEAR PVPP is versatile, easy to use, and designed to meet the stringent needs of the wine making industry. With a re-evaluation period of 36 months, it can be stored under ambient conditions and is compatible with most other filter aids, including diatomaceous earth (DE) and silica gel, allowing flexible dosing across various filtration stages and gentle control of decolorization.

STARCLEAR PVPP performs well with all kinds of wines. It can be used in cold conditions. Contrary to treatment with tartaric acid it does not cause very undesirable tartrate precipitation. As an insoluble compound in both water and alcohol, STARCLEAR PVPP can be entirely filtered out, making it suitable for clean labeling.

### STARCLEAR PVPP is valued for the following reasons

#### Clarification and Stabilization:

STARCLEAR PVPP effectively removes polyphenols, which can cause haze and browning in wine. This helps improve the wine's clarity, color stability, and overall quality.

#### Selective Adsorption:

STARCLEAR PVPP absorbs specific tannins and phenolic compounds, which can negatively affect the taste and appearance of the wine over time, without removing desirable elements such as flavors and aromas.

#### Shelf-life Extension:

By stabilizing the wine and preventing oxidation, STARCLEAR PVPP extends the product's shelf life, making it more suitable for longer storage.

#### Non-reactive and Safe:

STARCLEAR PVPP is inert and doesn't alter the chemical properties of wine, making it an ideal clarifying agent in the wine-making process

For wineries focused on maintaining high-quality standards, STARCLEAR PVPP offers a reliable, efficient, and industry-proven solution to optimize wine stability, clarity and taste.



## What Characterizes STARCLEAR PVPP?

**CAS No.:** 25249-54-1

**Synonyms:** Polyvinylpolypyrrolidone, Crosslinked Povidone, Crospovidone

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

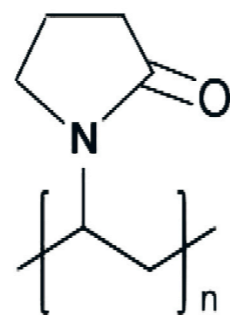
**HS Code:** 390599

STARCLEAR PVPP is "Generally Recognized as Safe" (GRAS) by the U.S. FDA. It complies with E 1202 and is registered with the U.S. FDA, including a U.S. FDA UFI (DUNS).

STARCLEAR PVPP does not contain Nanoparticles / Nanomaterial (EU) No 2015/2283.

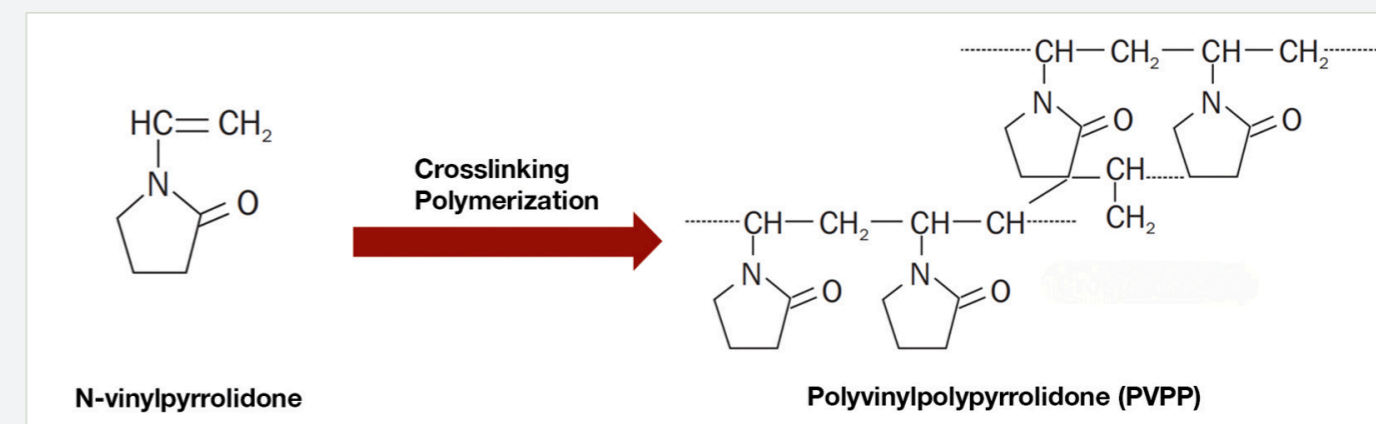
STARCLEAR PVPP meets California Proposition 65.

The quality of STARCLEAR PVPP is very consistent from batch to batch due to its synthetic nature and a validated production process.



Structure Formula  
Polyvinylpolypyrrolidone

STARCLEAR PVPP is produced by crosslink polymerization of N-vinyl-2-pyrrolidone in the presence of a caustic catalyst, resulting in a much higher surface area and forming an insoluble, hygroscopic "Popcorn Polymerizate" with swelling properties.



Chemical Structure of PVPP Resulting from the Crosslinking Polymerization of N-vinylpyrrolidone

## Physical and Chemical Properties STARCLEAR PVPP

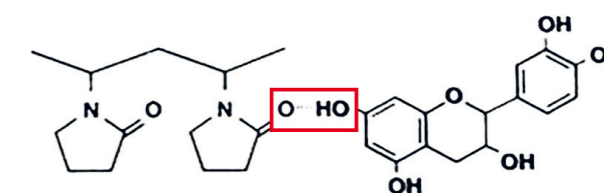
Characteristics	Specification	Test Reference
Appearance	White or off-white powder	E1202, FCC
Odor	No smell or slightly characteristic odor	E1202
Swelling Volume, l/kg	≤ 6.0	Ph. Eur.
Water, %	≤ 6.0	E1202, FCC
pH (1% Suspension in Water)	5.0 - 8.0	E1202, FCC
Water-Soluble Substances, %	≤ 0.5	E1202, FCC
Acid/Alcohol Soluble Substances, %	≤ 1.0	FCC
Heavy Metals, ppm	≤ 10	Ph. Eur.
Lead, ppm	≤ 2	E1202, FCC
Arsenic, ppm	≤ 2	SSP method
Sulfated Ash, %	≤ 0.4	E1202
Assay, as Nitrogen Content, %	11.0 - 12.8	E1202, FCC
NVP, ppm	≤ 10	E1202, FCC

## What is the Mechanism of STARCLEAR PVPP?

STARCLEAR PVPP combines multiple bonding mechanisms:

- STARCLEAR PVPP forms hydrogen bonds between its carbonyl groups and the phenolic hydrogens of the polyphenols.
- It effectively removes catechins and leucoanthocyanins, preventing the development of oxidized tones such as pinking and browning.
- STARCLEAR PVPP forms intramolecular hydrogen bonds.
- PVPP by nature offers more available binding sites for polyphenol adsorption compared to alternative protein stabilizers which are lacking amide hydrogen and cannot form intramolecular hydrogen bonds.

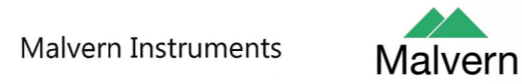
Catechin Adsorption Rate	
STARCLEAR F	≥ 55%
STARCLEAR XL	≥ 40%



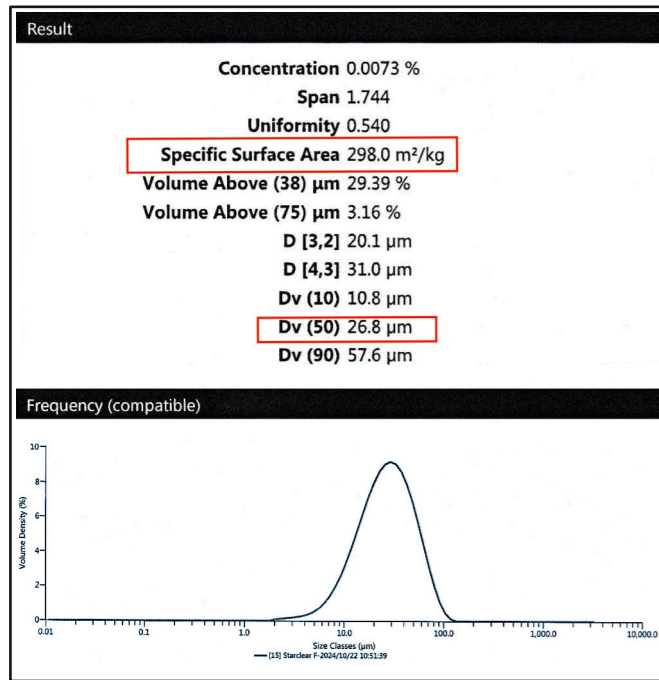
STARCLEAR PVPP binds polyphenols via the lactone function (cyclic amide) through hydrogen bonding (O-H...O), enabling effective adsorptive decolorization.

# STARCLEAR F and STARCLEAR XL Comparison

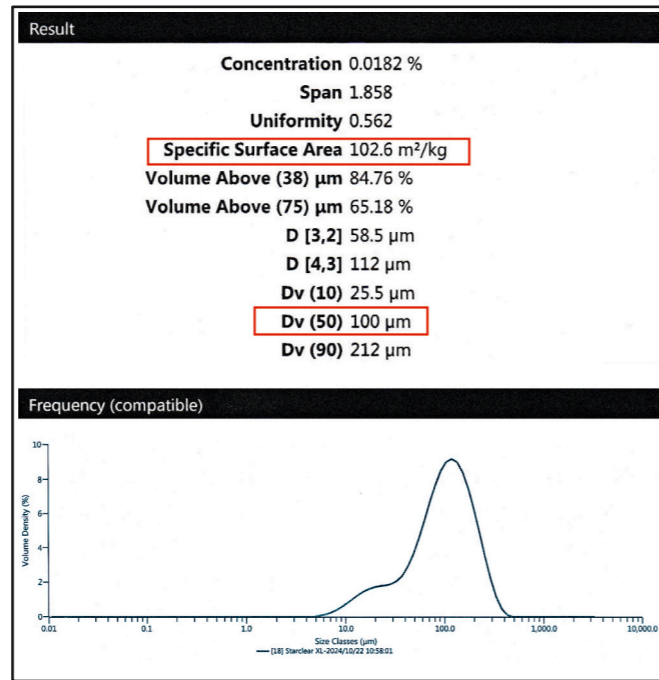
## Particle Size Distribution (PSD) and BET



### STARCLEAR F

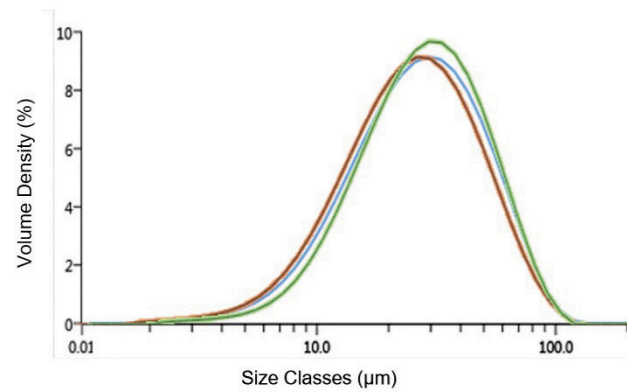


### STARCLEAR XL

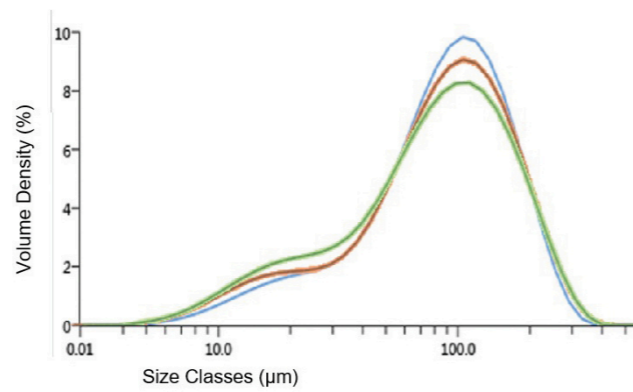


## High Consistency from Batch to Batch for Consistent Wine Quality

STARCLEAR F and STARCLEAR XL exhibit a highly homogeneous, narrow particle size distribution (PSD), ensuring consistent quality and performance in applications.



PSD of 3 Batches STARCLEAR F

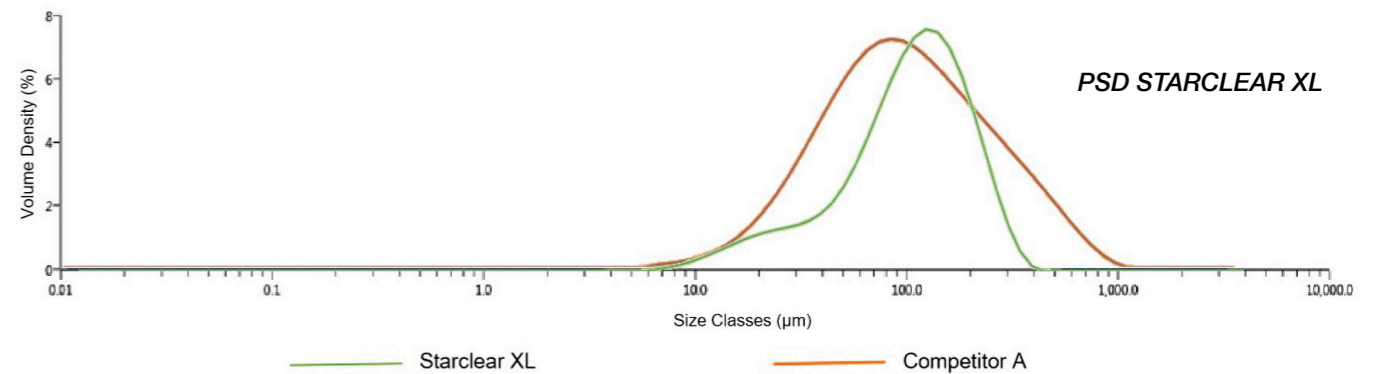
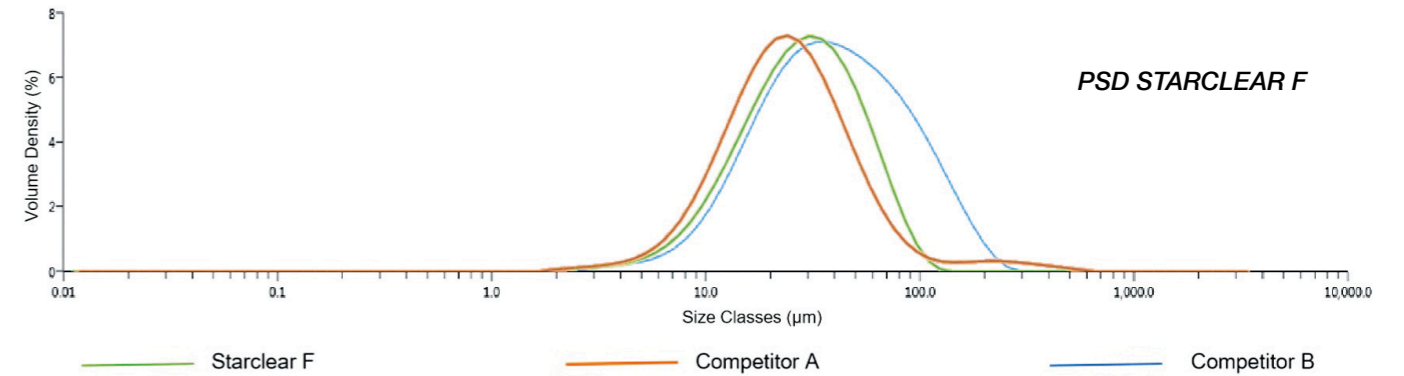


PSD of 3 Batches STARCLEAR XL

# STARCLEAR PVPPs Compared to Other Products in the Market

PSD and Surface Area of STARCLEAR PVPP Compared to Other Products in the Market				
Product	Specific Surface Area m <sup>2</sup> /kg	Specification SSP Method	DV (50) μ	
			Batch Result Malvern	Batch Result Malvern
STARCLEAR F	298,00	20 - 40	26,80	57,60
Competitor A	345,20		22,40	55,40
Competitor B	212,40		39,00	110,00
STARCLEAR XL	102,60	60 - 120	100,00	212,00
Competitor A	94,23		93,00	310,00
Competitor B	117,00		100,00	253,00

## PSD Comparison with other Products in the Market (Malvern)





## Attributes and Application of STARCLEAR PVPP

STARCLEAR PVPP plays a vital role in maintaining the overall quality and consistency of wines, which are highly sensitive to changes in color and aroma over time.

### Antioxidant Function:

It works as an antioxidant by minimizing wine exposure to oxygen, thereby preserving the wine's color. After treatment with STARCLEAR PVPP, typical oxygen levels drop to the ppb range, making it negligible.

### Adsorbent Properties:

As an adsorbent, STARCLEAR PVPP selectively removes unwanted compounds, particularly polyphenols that contribute to oxidative changes, resulting in enhanced flavor stability. Post-treatment, flavor-impacting compounds are reduced to ppm levels.

This combination of antioxidant and adsorbent functions ensures that wines retain their intended character while offering enhanced stability and longevity.

STARCLEAR PVPP Works as:	
Color Stabilizing Agent	Preventing oxidation and color degradation.
Flavor Preservative	Removing unwanted impurities and avoiding oxidation.
Aroma Stabilizer	Contributes to keep aromatic compounds stable, enhancing the overall olfactory profile.
Filter Aid/Fining Agent	Helps to remove unwanted particles for clear appearances.
Tannin Controler	Helps to reduce astringency, enhances overall mouthfeel.

## Tips for Application

When to Use What?			
STARCLEAR F	D50: 20 - 40 μ	For rapid polyphenol adsorption, due to its micronized particle size.	Best for removal by filtration.
STARCLEAR XL	D50: 60 - 120 μ	Coarser, optimized for Polyphenol adsorption. Forms compact lees that settle in vessels.	Removal by racking and/or filtration.

### Preparation:

STARCLEAR PVPP is hydrophilic. It disperses easily in wine and water. Prepare a slurry with 5 -10% STARCLEAR PVPP in water or wine and let it hydrate for 1 – 2 hours before use.

### Usage:

STARCLEAR PVPP could be used at various stages of the wine production: It is typically added when Bentonite is added for must refining, after the 1st cutting and taste refining. STARCLEAR F can be added to the wine after clarification, during or after tartaric stabilization or prior to pre-bottling filtration.

### Something to Consider:

If added to filtration a diatomaceous earth filter should be used. Give STARCLEAR PVPP min. 5 minutes contact time when used already in the aging vessel. When added to the tank, it may take 3-10 days to settle down.

### Dosage Level:

A dosage of 10-70 g/hl is typically used by the industry. For reduction of bitterness 15-25 g/hl and to cure oxidation damages 30-50 g/hl are common.

## Regulatory Information

SSP was originally designed to meet the high-quality standards of the Pharmaceutical Industry. SSP maintains a comprehensive and certified Quality Management System. Download Data Sheets, Packaging Information and Certifications, and let us know if you need any

additional information. A Pre-Audit Questionnaire and a comprehensive Product Regulatory Information Package (PRI) is also available. In addition, we are happy to arrange a plant audit.

Certifications	QA Standards
ISO 9001 - Conformity of Quality Management System	HACCP
ISO 14001 - Environmental Management System Certificate	EXCIPACT GMP (SGS)
ISO 45001 - Occupational Health and Safety Management System Certificate	EHS
ISO 22000 - Food Safety Management System Certificate	
Certificate of Drug Master File (US DMF)	
CEP edQm	
Industry Standards	Registrations
REACH	U.S. FDA Registration and U.S. FDA UFI (DUNS) Registration
Kosher	Food Production Licence
Halal	
	Available upon Request:
	To receive these documents, please send us a brief inquiry using the Contact template.
	Pre Audit Questionnaire
	Product Regulatory Information A-Z (PRI)

Further regulatory information can be found at <https://pvp-chem-agency.com/ra-gm> or by scanning the QR code.



Link to Regulatory Information

The Contact Page can be found at <https://pvp-chem-agency.com/contact> or by scanning the QR code.



Link to Contact Page





Round and Square Shaped Fiber Drums with Double PE Liner

## Packaging

Packaging Kind:	Square Shaped Drum		Round Shaped Drum		
	STARCLEAR F and XL		STARCLEAR F	STARCLEAR XL	
Product	Single Stack	Double Stack*	Single Stack	Single Stack	Single Stack**
kg/Single Drum	20	20	20	25	20
No Drums/Pallet	18	18	27	15	15
kg/Pallet	360	2 x 360 = 720	540	375	300
Pallets/20 ft. Cont.	-	-	10	10	10
Weight/20 ft. Cont.	-	-	5400	3.750	3.000
Pallets/40 ft. Cont.	-	20 Double Stacks	20	20	20
Weight/40 ft. Cont.	-	14.400 High Cube	10.800	7.500	6.000

\* Best option for complete container lots

\*\* Preferred packaging for urgent deliveries, usually on stock.

There is no irradiation associated with the manufacture, packaging, or storage of STARCLEAR PVPP including the raw materials and the packaging materials.

Re-evaluation recommended after 36 months.

You can find the Shipping & Packaging Guide at <https://pvp-chem-agency.com/ra-qm>

## Star-Tech & JRS Specialty Products Co.,Ltd. (SSP)

Sino-German Joint-Venture, Chongqing, China

SSP is a Sino-German Joint Venture dedicated to producing top-tier Povidones (PVPs) under audited and certified GMP and HACCP conditions. Situated in the National Economic and Technological Development Zone of Chongqing, China, SSP benefits from excellent infrastructure and an efficient, sustainable production environment, allowing for the cost-effective production of outstanding PVP quality.

Currently, SSP's high-quality Povidones are trusted by leading multinational companies in the pharmaceutical and medical sectors, serving as essential components in tablet formulations and as pore-regulating aids in dialysis membranes. Looking forward, SSP is committed to broadening its reach into the global Beverage and Water Treatment markets.

We are proud that renowned global companies already rely on our Polyvinylpyrrolidone STARCLEAR PVPP for superior beverage stabilization, enhancing the security and reliability of their supply chain.

**SSP 斯泰克**



SSP Headquarters in Chongqing, China

Facts and Figures of SSP	
Origin of SSP	2012
HQ and Production	Chongqing, China
JV Founded in 2016	Sino-German Joint Venture with the family owned JRS Group
Specialty	Premier PVP product lines, PVP-K, PVPP, PVP/VA
Capacity	5,000 metric tons annually
Certifications	ISO 9001, ISO 14001, ISO 45001, ISO 22000, EXCiPACT GMP (SGS), US DMF, CEP edQm, Kosher, Halal, U.S. FDA and U.S. FDA UFI (DUNS) registered
Applications	Pharmaceuticals, Medical Care, Filtration, Home and Personal Care, Glue Sticks ...
Current Core Market	95% Health Care Industry
Presence	Worldwide
Export Rate	65 %



Aerial View of SSP

SSP's strengths include production excellence, cost-effectiveness, outstanding regulatory documentation, and exceptional customer service, including direct customer management for key accounts.

Website: [chinassp.net/en/](http://chinassp.net/en/)



Link to SSP



## Your Contact:

### Manufacturing Site:

**SSP 斯泰克**

Star-Tech & JRS Specialty Products Co., Ltd.

No.1, Huanan Road  
Changshou District  
Chongqing 401221  
China

<http://chinassp.net/en/>

### SSP Global Agent (excluding China):



PVP CHEM AGENCY INTERNATIONAL GmbH

Managing Director: Yvonne M. Johnson  
Ahornweg 1  
73494 Rosenberg  
Germany

<https://pvp-chem-agency.com/>

### Distributor in Your Region:



## Order Your Free of Charge Sample Now!

Standard size 100g resp. 200g

[pvp-chem-agency.com/products/sample-request-form](https://pvp-chem-agency.com/products/sample-request-form)



### Disclaimer:

SSP recommends that customers independently test and evaluate their products and processes to determine the effectiveness of SSP products in their specific applications.