



PRODUCT DATA SHEET

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Sunflower LMC Series

INS 440 | E 440 | CAS 9000-69-5
CAGPEC™ SP

1. PRODUCT DESCRIPTION

CAGPEC™ SP Series is a premium Sunflower Low Methoxyl Pectin (LMC) extracted from sunflower heads (*Helianthus annuus*). It is a sustainable, non-GMO hydrocolloid naturally low in methoxyl groups, requiring no chemical de-esterification.

Sunflower LMC forms gels in the presence of calcium ions and is ideal for low-sugar, reduced-calorie, and sugar-free systems.

Appearance: White to light yellow free-flowing powder

Solubility: Dispersible in hot water (60–80°C)

Gel Type: Calcium-activated, thermoreversible gel

Degree of Esterification: 10–45% (grade dependent)

Galacturonic Acid: ≥ 75%

2. KEY FEATURES & BENEFITS

- ◆ High Calcium Reactivity – Controlled gelation with Ca²⁺
- ◆ Low-Sugar Gelation – Works in 10–55% soluble solids systems
- ◆ Clean Label – Sunflower-derived, non-citrus alternative
- ◆ Excellent Protein Stability – Ideal for yogurt applications
- ◆ Thermoreversible Gel – Melt and reset capability
- ◆ Reduced-Calorie Friendly – Suitable for sugar-free formulations

3. TYPICAL APPLICATIONS

Application	Recommended Grade	Dosage	Functional Benefit
Reduced Sugar Jam	SP100 / SP200	0.5–1.0%	Calcium-activated gel; fruit suspension
Sugar-Free Fruit Spread	SP200	0.5–1.0%	Firm gel with low soluble solids
Yogurt (Stirred / Set)	SP300	0.1–0.3%	Protein stabilization; whey control
Dairy Desserts	SP300	0.2–0.5%	Creamy texture; syneresis reduction
Bakery Fillings	SP400	0.3–0.8%	Bake-stable gel; improved sliceability
Candy & Confectionery	SP400	0.5–1.5%	Soft elastic gel; sugar-free suitable
Ice Cream	SP300	0.05–0.2%	Ice crystal control; improved melt resistance

4. PRODUCT SPECIFICATIONS

Parameter	Specification
Appearance	White to light yellow powder

Parameter	Specification
Odor & Taste	Neutral, characteristic pectin
Galacturonic Acid	≥ 75%
Degree of Esterification	10–45%
Gel Strength	100–115° (USA-SAG equivalent)
Loss on Drying	≤ 8%
Total Ash	≤ 5%
Acid Insoluble Ash	≤ 1%
pH (2.5% solution)	4.5 – 5.0
Sulfur Dioxide	≤ 50 ppm
Heavy Metals	Complies with international standards
Microbiology	Complies with food safety standards

Full technical specification sheet available upon request

5. REGULATORY COMPLIANCE

CAGPEC™ SP complies with: • JECFA (INS 440)• EU Regulation (E 440)• FCC
• GB Standards

Certifications available:

ISO 9001 | ISO 22000 | HACCP | GMP

Halal | Kosher | Non-GMO | Allergen-Free | Vegan Suitable | BSE/TSE-Free

6. PACKAGING

Inner Packaging: Food-grade PE liner (50-80 µm thickness)

Outer Packaging: Multilayer kraft paper bag, plastic woven bag, or fiber drum

Net Weight: 25 kg / bag (standard), 20 kg / carton (for food service), 500 kg / jumbo bag (bulk orders)

Pallet Configuration: 40 bags per pallet (1000 kg net)

Container Loading: Approximately 20,000 kg per 20' FCL

Custom Packaging: Available upon request (custom weights, labeling)

7. STORAGE CONDITIONS & SHELF LIFE

Storage Conditions: Store in a cool, dry place away from direct sunlight, heat sources, and strong odors. Temperature: < 25°C recommended (optimal 10-20°C), Relative Humidity: < 60%

Shelf Life: 24 months from date of manufacture when stored under recommended conditions

Transport: Strictly prohibit transport with poisonous materials; protect from moisture and contamination

For detailed technical data, samples, or customized grades, please contact CAG.

This product data sheet provides typical technical data and should be used for initial product evaluation. Specifications are based on international standards for E 440. Actual values may vary slightly depending on harvest season and production batch. For formulation support or custom grade requirements, please contact our technical team..