



PRODUCT DATA SHEET

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Refined Kappa Carrageenan – Ethanol Extraction

INS 407 | E 407 | CAS 11114-20-8

CAGCAR™ 500

1. PRODUCT DESCRIPTION

CAGCAR™ 500 is a premium-grade refined kappa carrageenan manufactured using advanced food-grade ethanol extraction technology.

Derived from selected *Kappaphycus alvarezii*, the product undergoes controlled purification and precipitation to remove low-molecular-weight fractions, pigments, insoluble matter, and off-flavor components. The ethanol extraction process preserves the native molecular structure of carrageenan while achieving high purity, low impurity profile, and superior gel clarity.

It forms firm, elastic, and highly transparent gels with excellent water-holding capacity and reduced syneresis compared to conventional refined grades.

2. KEY FEATURES & BENEFITS

- ◆ High gel strength ($\geq 1200 \text{ g/cm}^2$)
- ◆ Excellent water retention with minimal syneresis
- ◆ Superior transparency for clear gel systems
- ◆ Low impurity and low residual solvent profile
- ◆ Smooth texture and clean gel break
- ◆ Suitable for high-end food and pharmaceutical applications

3. TYPICAL APPLICATIONS

Application	Usage Level	Functional Benefit
Plant-Based Capsules	0.5–2.0%	Clear, strong film formation
Transparent Jelly / Pudding	0.3–0.8%	High clarity and reduced syneresis
Yogurt	0.1–0.3%	Protein stabilization, whey control
Cream Cheese	0.2–0.5%	Improved spreadability and moisture retention
Dairy Stabilizer Systems	0.1–0.4%	Stable viscosity in milk systems
Premium Desserts	0.2–0.5%	Firm, sliceable gel with gloss
Restructured Meat	0.2–0.6%	Water binding and yield improvement
Pharmaceutical Suspensions	0.1–0.3%	High purity, stable viscosity

4. PRODUCT SPECIFICATIONS

Parameter	Specification
Appearance	Off-white to white powder

Parameter	Specification
Odor & Taste	Odorless, neutral
Particle Size	≥ 95% through 120 mesh
Loss on Drying	≤ 10%
Total Sulfate	15–40%
Total Ash	≤ 20%
Acid Insoluble Ash	≤ 0.5%
Acid Insoluble Matter	≤ 1.5%
Viscosity (1.5%, 75°C)	20–50 mPa·s
Gel Strength (1.5% + 0.2% KCl)	≥ 1200 g/cm ²
pH (1.5% solution)	7.0–10.0
Transparency (0.5% gel, 600 nm)	≥ 85%
Water Holding Capacity	≥ 95%
Low Molecular Fraction (<50 kDa)	≤ 3%
Residual Ethanol	≤ 100 mg/kg

5. REGULATORY COMPLIANCE

CAGCAR™ 500 complies with: • JECFA (INS 407) • EU Regulation (E 407) • FCC • GB 1886.169-2016

Certifications available:

ISO 9001 | ISO 22000 / FSSC 22000 | HACCP

Halal | Kosher (Pareve)

Non-GMO | Allergen-Free | Vegan Suitable

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)

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 JECFA (FAO/WHO), EU Commission Regulation for E 407, and FCC standards. Actual values may vary slightly depending on the specific grade, seaweed source (harvest season, farming location), and production batch. For specific formulation assistance or custom grade requirements, please contact our technical support team.