

# PRODUCT DATA SHEET

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## Semi-Refined Kappa Carrageenan

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

### CAGCAR™ 300

#### 1. PRODUCT DESCRIPTION

**CAGCAR™ 300** is a cost-effective Semi-Refined Kappa Carrageenan derived exclusively from sustainably farmed *Kappaphycus alvarezii* (formerly *Eucheuma cottonii*). It is a natural hydrocolloid widely used in meat, dairy, pet food, and gelled systems where firm texture and strong water binding are required.

**Appearance:** Tan to yellowish free-flowing powder

**Solubility:** Swells in cold water, fully hydrates at 70-80°C

**Gel Type:** Firm, brittle gel (enhanced with potassium ions)

#### 2. KEY FEATURES & BENEFITS

- ◆ Cost-Effective Alternative to refined carrageenan
- ◆ Excellent Water Binding & yield improvement
- ◆ Strong Protein Reactivity (meat & dairy systems)
- ◆ Thermoreversible Gel (melt >60°C, reset on cooling)
- ◆ Alkaline Stable – ideal for meat processing

#### 3. TYPICAL APPLICATIONS

Application	Dosage	Functional Benefit
Processed Meat (Ham, Sausage)	0.2–1.0%	Water binding, improved sliceability, cooking loss reduction
Injection Brines (Poultry/Pork)	0.3–0.6%	Higher yield, juiciness, purge control
Canned Pet Food	0.2–0.8%	Gravy thickening, suspension stability
Dairy Desserts / Flan / Pudding	0.1–0.5%	Firm, clean gel texture
Restructured Seafood	0.5–1.2%	Fish binding, structure formation
Water Gel Desserts	0.5–1.0%	Firm brittle gel (K <sup>+</sup> activated)
Sauces & Gravies	0.1–0.5%	Viscosity & particle suspension

#### 4. PRODUCT SPECIFICATIONS

Parameter	Specification
Appearance	Tan to yellowish free-flowing powder
Odor & Taste	Practically odorless, neutral
Solubility	Swells in cold water; fully hydrates at 70–80°C
Sulfate (as SO <sub>4</sub> , dried basis)	15 – 40 %
Viscosity (1.5%, 75°C)	≥ 5 mPa·s (Typical 10–80 mPa·s)

Parameter	Specification
Gel Strength (1.5% + 0.2% KCl)	
– Meat Processing Grade	400 – 800 g/cm <sup>2</sup>
– Standard Grade	800 – 1100 g/cm <sup>2</sup>
Loss on Drying	≤ 12 %
Total Ash (550°C)	15 – 30 %
Acid Insoluble Ash	≤ 1 %
Acid Insoluble Matter (Algal cellulose)	8 – 15 %
pH (1.5% suspension, 25°C)	8.0 – 11.0
Particle Size	≥ 95% pass 80 mesh (180 μm)
Identification	FTIR characteristic kappa peak (~845 cm <sup>-1</sup> )
Residual Solvents	≤ 0.1 % (if applicable)

Full technical specification sheet available upon request

## 5. REGULATORY COMPLIANCE

CAGCAR™ 400 complies with: • JECFA (INS 407) • EU Regulation (E 407) • FCC

• GB 15044-2009

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 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.\**