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## **Carrageenan by Gelymar**

Hydrocolloid Texturizing Solutions



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Gelymar specializes in hydrocolloid texturizing solutions. Widely used in food manufacturing, carrageenan improves texture, suspension, stability, gelling, mouthfeel, smoothness, and thickening in dairy, prepared foods, confectionery, and meat applications.

## Gelymar's carrageenan is unique

Gelymar's carrageenan products are sustainably sourced and harvested with the industry's lowest water footprint. The products are non-GMO, Kosher pareve, halal-certified and gluten-free. They are free of animal protein and are derived from 100% vegan ingredients.

- Gelymar's ideal location situated off the south coast of Chile gives them access to the world's largest cold-water red seaweed source – the raw material for Kappa II and Lambda carrageenan extracts.
- Gelymar is the only worldwide producer to develop a sustainable supply of high purity Kappa II and Lambda carrageenan extracted from fresh seaweed.
- Gelymar is the only producer that utilizes four production technologies using both cold- and hot-water seaweeds, providing the most versatile carrageenan portfolio for formulation needs.

## The Gelymar product range includes:

### Carra™ Lact

Thickener, stabilizer, and gelling agent in milk-type systems, including dairy beverages, ice creams, cheeses, and desserts.

	MAIN APPLICATION	Reactivity with milk protein	Consistency	Creaminess	Body	Suspension	Stabilization	Syneresis Control
Carra™ Lact DCM	Dairy & protein beverages	✓			✓	✓	✓	
Carra™ Lact DCR	Cream & creamers	✓					✓	
Carra™ Lact DDE	Dairy desserts & puddings	✓		✓				✓
Carra™ Lact DGU	Dairy & non-dairy beverages	✓			✓	✓	✓	
Carra™ Lact DIC	Ice cream & sorbets	✓		✓			✓	
Carra™ Lact DPC	Processed cheese	✓	✓	✓				✓
Carra™ Lact PGU	Instantized drinks	✓			✓	✓	✓	

### Carra™ Gel

Gelling and thickening agents for water-based systems, including vegan gelatin-free desserts, bakery fillings, and meat applications.

	MAIN APPLICATION	Gel at room T°	Brightness	Transparency	Suspension	Consistency	Stabilization	Syneresis Control
Carra™ Gel MCH	Meat	✓				✓		✓
Carra™ Gel PFP	Fruit preparations & confectionery	✓	✓	✓	✓		✓	✓

### Carra™ Sol

Thickener and stabilizer in water or milk systems, including sauces, dressings, fruit preparations, and meat injections.









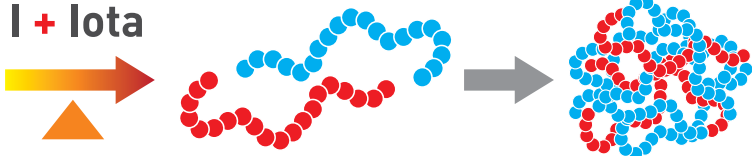

	MAIN APPLICATION	Thickening	Emulsifying	Suspension	Stabilization	Consistency	Syneresis Control
Carra™ Sol PGU	White cheeses, sauces & dressings	✓	✓	✓	✓	✓	✓
Carra™ Sol MGU	Meat injections	✓			✓	✓	✓
Carra™ Sol PFP	Fruit preparations	✓	✓	✓	✓	✓	✓

## Why choose Kappa II and Lambda carrageenan for your next product formulation?

Kappa II and Lambda carrageenans from fresh seaweed offer higher gel strength and improved creaminess & mouthfeel due to their unique rheological and sensory properties. These product characteristics are not possible by simply mixing Kappa I and Iota carrageenan, offering lower cost in use in your formulations.

## What is unique about Kappa II carrageenan?

Kappa II has a specific interaction with milk proteins to deliver the functional properties required by the dairy industry. This interaction is pH-dependent, creating  $\text{Ca}^{+2}$  bridge formation between the casein in the milk and the carrageenan.

Kappa I	Kappa II	Iota	Lambda
Linear homopolymer consisting of kappa carrabiose 	Looped random copolymer containing kappa and iota carrabioses 	Looped homopolymer constituted by iota carrabiose 	Semi-linear homopolymer consisting of kappa carrabiose 
Rigid gel High syneresis 	Weak gel Medium elasticity Low or no syneresis 	Very weak gel High elasticity Low syneresis 	Non-gelling dispersion 
<b>Kappa I + Iota</b>  Each one gels independently of the other, delivering an opened, weak structure with some syneresis due to gelling			
<b>Kappa II</b>  Dense and closed structure without syneresis <b>KI + I ≠ KII</b>			





## The Gelymar Difference: Pioneers of Seaweed Production for More Than 70 Years

Gelymar sustainably sources its carrageenan products off the south coast of Chile with the industry's lowest water footprint. While Gelymar produces the full range of carrageenan extracts, it is their ability to make Kappa II and Lambda carrageenan from fresh seaweed that sets them apart.

### **Gelymar's Advantage**

- Carrageenan Leader – Leader in the extraction of Kappa II and Lambda carrageenan
- Environmentally Friendly – Sustainable harvesting of renewable resources
- Strategically Located – Proximity to the raw material source allows use of fresh rather than dried seaweed to make higher functioning textural solutions
- Technologically Advanced – Constantly re-investing in manufacturing resources with four strategically located production sites
- Continuously Innovating – Continuously developing new carrageenan extracts with over 250 currently in the product range to provide the right solution for your application

# Application Overview

## Dairy

### Main Applications:

- Dairy & high protein beverages
- Dairy desserts
- Processed cheese
- Cream
- Yogurt
- Ice cream

### Functionality & what you can achieve:

- Sugar & fat reduction
- Thickening
- Protein stabilization
- Stability during shelf life
- Cost optimization



## Prepared Foods

### Main Applications:

- Fruit preparations
- Bakery fillings & toppings
- Salad dressings
- Sauces (savory or sweet)
- Vegan gelatin-free desserts
- Confectionery
- Vegan marshmallows

### Functionality & what you can achieve:

- Different texture profiles
- Transparency
- Sugar reduction
- Fruit suspension
- Low dosage





# Meat

## Main Applications:

- Meat injection
- Hams
- Sausages
- Burgers
- Reconstituted meat

## Functionality & what you can achieve:

- Water retention
- Yield optimization
- Sodium reduction
- Phosphate replacement



## Plant-Based Applications

Consumers' increasing concerns and attention to healthy eating have driven the food industry to meet different challenges in order to deliver on their expectations. Carregeenan offers natural vegan alternatives to replace egg or gelatin in your favorite recipes!!

### Main Applications:

- Vegan drinks
- Vegan dressings
- Vegan mayonnaise
- Vegan hot cakes
- Sugar & fat free foods
- Egg-free products
- Gluten-free applications

To learn more visit [UnivarSolutions.com/Food](https://UnivarSolutions.com/Food)  
or call +1 800.531.7106

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