Seaweed
The versatile, nutritious food of the future
Fast-growing, nutrient-rich and sustainable, seaweed is the ingredient of the future. We offer one of the widest ranges of commercially available seaweed extracts, with properties designed to enhance your food products.

**Carrageenan**
A unique, sustainable ingredient extracted from red seaweed for making food and beverages more nutritious and delicious.

**Alginate**
A naturally-occurring, sustainable food ingredient extracted from brown seaweed.

**Application areas**
- Beverages
- Snacks and bars
- Dairy foods and desserts
- Ice cream and frozen desserts
- Fruit preparations and fillings
- Meat, poultry, and seafood
- Meat alternatives

**Aligned with trends - how we help**

Naturally derived from marine plants and algae, seaweed hydrocolloids are often used in a wide range of plant-based applications - everything from vegetarian sausage casings to vegan beverages.
Seaweed does not require land, fresh water, pesticides or fertilizers. We are pioneers in harvesting seaweed as efficiently and sustainably as possible, having designed a sustainability program specifically for the hydrocolloid industry.

Our seaweed supports at least four of the United Nations Sustainable Development Goals:
A unique, sustainable line of ingredients for making foods and beverages more nutritious and delicious

Carrageenan

Extracted from red seaweeds found off the coasts of the Philippines, Indonesia, Canada, Tanzania, and Chile, carrageenan is a naturally occurring hydrocolloid that provides structure, gelation and viscosity for a variety of food applications.

The seaweeds used to produce carrageenan are incredibly sustainable. Wild harvested red seaweeds use no land and require no fertilizers or irrigation. Seaweeds are harvested using sustainable ocean management and harvesting practices. This makes it a great ingredient for today’s environmentally conscious consumers.

Key benefits of carrageenan

- Enables nutrient and particle suspension
- Imparts a gelled spoonable texture
- Replaces fat and promotes a creamy mouthfeel
- Retains water and reduces cooking loss
- Improves sliceability
## Applications and range

<table>
<thead>
<tr>
<th>Product range</th>
<th>Benefits</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>VISCARIN®</strong></td>
<td>Provides a smooth, clean mouthfeel with excellent flavor release. Increases control of viscosity, stabilization, and suspension. Allows for water binding. Helps to maintain high moisture in applications</td>
<td>• Dressings&lt;br&gt;• Sauces&lt;br&gt;• Beverages, including non-dairy</td>
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<tr>
<td><strong>GELCARIN®</strong></td>
<td>Provides water gelling, texture and syneresis control. Enables transparency. Adds elastic texture. Superior shelf stability in dry mixes</td>
<td>• Non-dairy desserts&lt;br&gt;• Fruit preparations&lt;br&gt;• Glazings and fillings&lt;br&gt;• Confectionery&lt;br&gt;• Bars&lt;br&gt;• Processed meat</td>
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<tr>
<td><strong>LACTARIN®</strong></td>
<td>Specifically for dairy beverages. Provides stabilization, viscosity, and excellent flavor release. Allows for cocoa suspension. Offers superior mouthfeel</td>
<td>• Dairy foods and desserts&lt;br&gt;• Dairy beverages</td>
</tr>
<tr>
<td><strong>LACTOGEL®</strong></td>
<td>Specifically for dairy foods and desserts. Adds a creamy texture. Enhances flavor release with low process viscosity</td>
<td>• Dairy desserts (hot or cold processing)&lt;br&gt;• Cheese</td>
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A naturally-occurring, sustainable food ingredient extracted from brown seaweed

Alginate

Alginate is a polysaccharide derived from brown seaweeds that offers superior gelling properties. It helps to impart freeze/thaw stability and offers a broad range of flow properties for aqueous-based systems.

The seaweeds used to produce alginates are incredibly sustainable. Wild harvested brown seaweeds use no land and require no fertilizers or irrigation. Seaweeds are harvested using sustainable ocean management and harvesting practices. This makes it a great ingredient for today's environmentally conscious consumers.

**Key benefits of alginate**

- Prevents moisture migration, including syneresis and purge control
- Helps to restructure foods such as fish or meat
- Improves the bake stability and mouthfeel of fillings
- Retards ice crystal formation and helps control meltdown
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| **PROTANAL®**  | *For fruit fillings:*  
  Easier to disperse.  
  Excellent bake stability.  
  Enables gelling at a wide range of sugar levels.  
  Provides excellent shelf stability.  
  Improves clarity and gloss.  
  Provides good fruit flavor and appearance | *Bakery fillings* |
|               | *For cream fillings:*  
  Allows for both slow and quick setting |  |
|               | *For ice cream and frozen desserts:*  
  Improves mouthfeel and shelf life by retarding ice crystal formation.  
  Helps control meltdown | *Dairy foods and desserts* |
|               | *For hot and cold structured foods:*  
  Allows better utilization of raw materials with no waste materials in the process.  
  Is "heat and freeze"-thaw stable  
  Provides the necessary mechanical strengths for processing | *Restructured foods*  
  *Meat*  
  *Sauces*  
  *Dressings*  
  *Beverages, including non-dairy* |
|               | *For sausage casings:*  
  Provides the necessary mechanical strengths for processing. |  |
Global supplier of high-quality hydrocolloids

DuPont Nutrition & Biosciences has over 60 years of experience as a global supplier of high-quality hydrocolloids, each tailored to our customer’s individual performance requirements.

Solution capabilities
- Industry leading Food & Beverage application scientists ready to create customer specific solutions drawing from a uniquely broad ingredient and technology portfolio
- Tailor made functionality to optimize with application

Reliable global network
- World-class Quality Management System to secure highest levels of quality and food safety
- With offices, research centers and manufacturing facilities worldwide, DuPont has the network to provide you with the necessary support

Committed innovation partner
- Fundamental research and application development are in our core DNA
- Our scientists are equipped with state-of-the art facilities and expertise necessary to analyse products and data, develop prototypes and make appropriate recommendations

Customer proximity
- DuPont has application experts and labs in all major markets
- Global reach of direct sales force
About DuPont™ Danisco®

DuPont™ Danisco® is the brand for a range of ingredients that help provide enhanced bioprotection, an improved nutritional profile, and better taste and texture with greater cost efficiency and lower environmental impact, meeting the needs of manufacturers of food and beverages, dietary supplements and pet food. Through the work of the global network of food scientists and technologists in DuPont, the Danisco® range is supported by a uniquely broad spectrum of know-how across applications and processing.