

lotagel

Ingredients

Carragheenane (E407) – dextrose

Culinary data

lotagel is a gelling agent.

It enables:

- to obtain gelled preparations with an elastic and transparent texture, similar to those obtained with gelatine
- to make hot gels,
- to make custard with texture similar to egg custard's one,
- to make mousses with whipped cream like texture.

Technological data

Dissolution

The preparation of lotagel starts with the dissolution of the lotagel powder in water. This is obtained only if water is heated above 70°C. To improve the solubility of the lotagel, it is recommended to disperse it in cold water, before heating the mixture.

The amount usually used ranges from 0.2 to 0.5g for 100g of final preparation in the case of dairy products, and from 1 to 2 g for 100g of final preparation in the case of aqueous preparations.

Gel setting

The gel sets when the preparation is cooled down to temperatures close to 30°C. The formed gels withstand to temperatures up to 40-50°C and melt above. The gels set again as the temperature is decreased again to temperatures close to 30°C. It's advised to let the preparation gel at room temperature. When the preparation is placed in the fridge, the gel becomes more brittle and less soft

Effect of the acidity

lotagel is sensible to acidity. It is advised to add the acidic ingredients after heating.



Influence of ions

lotagel is sensitive to calcium ions presence in the medium, those in dairy products for example. They contribute to the formation of a denser and creamier network.

Sensory properties

Gels are "smooth", translucent and soft. They bring a melting sensation in the mouth leading to a smooth sensation. Gels have a neutral taste

Preservation

Unlike the gels made of gelatine, those made of lotagel don't harden and don't toughen with aging.

Freezing

Gels of lotagel can be frozen. The gel structure is kept during freezing.

Storage

Store in a closed hermetic packaging, in a cool and dry place.

Toxicological data

- The used quantity shouldn't exceed the concentrations used to obtain the desired effect
- No acceptable daily intake level.

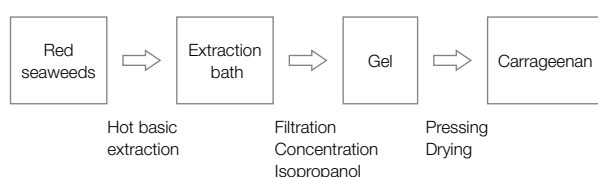
Scientific data

Origin

Carrageenans are a family of products extracted from red seaweeds displaying gelling properties.

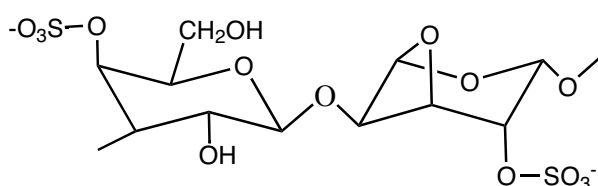
The seaweeds varieties are essentially from the genus *Solieriaceae*, *Gigartinaceae*, *Furcellariaceae*, *Hypneaceae*, *Rhabdoniaceae* et *Rhodophyllidaceae*.

In nature, they serve as structural material to the seaweeds: soft and resistant, they allow adapting to the constant changed of the marine streams.



Chemical composition

Carrageenans are a family of polymers (long molecules made by attaching one after the other a large number from one or several small molecules) made of carbohydrates (i.e. sugars in chemistry's words, with a meaning not restricted to table sugar). Several sorts exist that vary by the density of negative charges they carry, and as a consequence, their solubility. The ions accompanying these negatives charges, and specifically the potassium and calcium ions, are playing an important role in the gel setting of carrageenans.



Carrageenan iota

History

Carrageenans have been used as thickener for centuries, the earliest record of it being in Ireland, boiled with milk.

Informations from Stanley N. F. in *Food Gels* (ed. P. Harris), Elsevier **1990**, 79-119.