

FOOD

VIDOGUM SP®

(Native Tara gum)



Raw Material

VIDOGUM SP (native Tara gum E 417) is extracted from the endosperm of the seeds of the wild shrub "Caesalpinia spinosa L." The active chain-like hydrocolloid molecules belong to the Galactomannan group.

Tara gum has been approved for use in the EU since 1995.

Origin: Peru.

Production

Separation of the endosperm, milling, sifting, standardisation

Characteristics

VIDOGUM SP 200 is suitable for cold processes, but not for cold stirred Instant products. Tara Gum has a higher hot viscosity than locust bean gum, a 10% reduced dosage will result in a similar viscosity.

VIDOGUM SP 175 and **VIDOGUM SP 150** are practically only used in heated applications. The relatively high viscosity at the start of the process can be a technological advantage:

- emulsifying effect in mayonnaise from an early stage in the process.
- easier filling of meat reduced sausage products.

The flow behaviour and the resulting mouth-feel lies between native guar and locust bean gum. **VIDOGUM GH**: slimy ↔ **VIDOGUM SP**: full-bodied ↔ **VIDOGUM L**: creamy

VIDOGUM SP is used above all for such products where its unique mouth-feel is requested:

- Mayonnaise
- Dressings
- Cold-consumed processed meat goods

VIDOGUM SP synergistically strengthens the gelling network of agar-agar and k-Carrageenan. **VIDOGUM SP** makes the gel structure considerably more elastic. This synergy is somewhat weaker compared with **VIDOGUM L (LBG)**. The gelling optimum in aqueous solutions is k-Carrageenan: **VIDOGUM SP** = 70 : 30.

With xanthan gum, **VIDOGUM SP** forms smooth gels that are particularly suitable for fine food and delicatessen products.

The gelling optimum in aqueous solutions is xanthan gum: **VIDOGUM SP** = 50:50.

The gel starts to form at room temperature, but it continues to build over 24 hours.

With some properties being similar to those of locust bean gum and others similar to guar gum. **VIDOGUM SP** is a hydrocolloid with unique characteristics, which cannot be obtained by just mixing guar and locust bean gum.

**Viscosity,
Flow behaviour and
Gelling strength**

Benefits

Characteristics that correspond to those of native locust bean gum:

- Synergy with k-Carrageenan and agar-agar → strengthening of the gelling network → cost reduction.
- Increase of elasticity of k-Carrageenan gels.
- Gels (→ synergy) with xanthan gum (useful in mayonnaise, dressings).
- Very good aroma release and taste-neutrality.
- Can be used in sucrose solutions up to 60Bx.
- Improved protective colloid effect of **VIDOGUM SP 175** for thermally-treated quark on basis of its specific solubility characteristics (it dissolves gradually during the heating step) – of special importance at a fat content < 27%. With higher fat contents, the protective colloid effect of the milk fat is usually sufficient.

Characteristics that correspond to those of native guar gum

- **VIDOGUM SP 200** suitable for cold applications.
- Freeze / thaw stable → suitable for frozen products.
- Hot viscosity comparable with guar gum, but approx. 10% higher than locust bean gum

Additional characteristics

- **VIDOGUM SP 200** also forms a gel with xanthan gum in cold applications.
- Syneresis reduction is of particular interest when used with k-Carrageenan.
- Viscosity increase if used together with native and modified starches.
- Full-bodied mouth-feel is particularly suited to meat, culinary and fruit products.

Areas of use

Product Group	Dosage [%]	Benefits in final product using a selected example
Dairy and dessert products	0.2 – 0.3	Heat-treated cream cheese – combination with k-Carrageenan: <ul style="list-style-type: none"> • Gelling network is smoother and more elastic, good syneresis prevention. • Protects milk proteins from sandiness by dissolving continuously and gradually during the heating step → Higher process security, improved quality. • Full but less creamy mouth-feel than with locust bean gum. • As a rule, addition before the fermentation requires a fat content > 14% and use of additional hydrocolloids or stabilisers (e.g. pectin, agar-agar).
Fruit products and soft drinks	0.1 – 0.5	Fruit preparations and fruit desserts – with pectin, modified starch and xanthan: <ul style="list-style-type: none"> • Particularly suitable for fruit preparations for non-stirred yoghurts, as well as fruit desserts (e.g. red fruit jelly). • Outstanding aroma and acid release (→ enhanced freshness and fruitiness). • Full-bodied consistency that suggests a higher fruit content • Can be used in solutions with a sucrose content of max. 60%.
Culinary products	0.1 – 0.4	Mayonnaise, salad dressings - with xanthan gum and modified starches, produced cold and hot: <ul style="list-style-type: none"> • Forms a weak gel with xanthan gum (→ very pleasant mouth-feel). • Gelling with xanthan gum even in cold processes (→ VIDOGUM SP 200), gelling complete after max. 24 hours (at 20°C). • Freeze – thaw stable → suitable for frozen products.
Meat products	0.1 – 0.4	Cold-consumed boiled sausages and processed meat products (e.g. cold cuts, meatloaf), tumbled products and sterilized tinned sausages with low meat / high water content in combination with k-Carrageenan. As a rule, no further thickening agents, such as guar gum, are needed. <ul style="list-style-type: none"> • Improves the gel strength of k-Carrageenan (→ cost reduction). • Rounds-off the sensory quality in regards of full-bodied mouth-fee. • Very natural gel structure, the gel becomes more elastic. • Reduction of gel / water separation. • Syneresis reduction during storage (e.g., vacuum packaging) → improved storage stability.
	0.05 – 0.2	In the case of boiled sausages and sterilised frankfurters that are consumed hot, the same basically applies as for cold-consumed meat products. Due to the weaker gelling of k-Carrageenan at the consumption temperature (approx. 35 – 50°C), usually a combination of k-Carrageenan and VIDOGUM SP is used, which results in a stronger gel structure due to the synergistic effect. The dosage then can be lowered compared to the use of k=Carrageenan or VIDOGUM SP alone. Hot and cold consumption: An additional use of VIDOGUM KJ, KJ-HN, KJP (Konjac Gum, E 425) could lead to a further optimisation of the price/performance ratio depending on the application.