

VIDOGUM SP-SYN

(viscosity-reduced tara gum)

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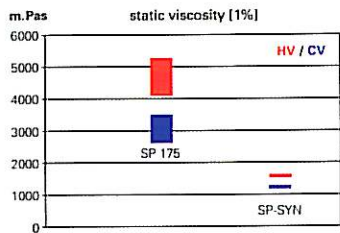
Raw materials

VIDOGUM SP-SYN (viscosity-reduced tara gum E 417) is extracted from the endosperm of the seeds of the wild shrub *Caesalpinia spinosa* L. Tara gum has been approved for use in the EU since 1995. The active chain-shaped hydrocolloidal molecules belong to the Galactomannan group. Origin: Peru.

Production

Separation of the endosperm, milling, sifting, thermal viscosity reduction, standardisation.

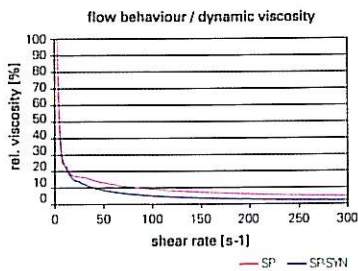
Characteristics



Viscosity

VIDOGUM SP-SYN can be used for cold processes. The hot viscosity is significantly reduced compared to native tara gum. Through a doubling of the dosage, the same viscosity values as for VIDOGUM SP can be achieved – at the same time, you also thereby achieve a doubling of water-binding in the system, which brings the following benefits:

- Reduction of the syneresis
- Full mouth-feel (-> important for fat-reduced products)

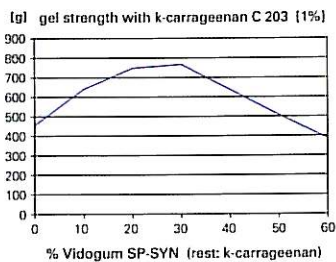


Flow behaviour

VIDOGUM SP-SYN appears to be less pseudo-plastic than VIDOGUM SP. With increasing shear forces, shorter molecular chains align themselves parallel to the shear direction in the same way as longer molecular chains. The system thereby attempts to avoid the external constraint in order to thereby achieve the lowest possible energy condition. This can be observed through a reversible viscosity reduction. The viscosity of shorter molecular chains does not, however, reduce as strongly as that of longer chains. Regarded geometrically, the shorter the chains become, the more these will take on the form of a globe. Globular molecules (such as, for example, starch) accordingly demonstrate no pseudo-plastic flow behaviour. As shearing also takes place in the mouth while eating, VIDOGUM SP-SYN produces a pleasant and creamier mouth-feel than VIDOGUM SP. An excessive viscosity reduction will be experienced as slimy, while a weak viscosity reduction corresponds to the mouth-feel of starch. This is particularly suitable for fat-reduced dairy products and mayonnaise.

Comparison of the mouth-feel:

VIDOGUM SP: full-bodied <-> VIDOGUM SP-SYN: creamy, full-bodied <-> VIDOCREM: creamy, full-bodied



Gelling strength

VIDOGUM SP synergetically strengthens the gelling network of agar-agar and k-Carrageenan – this synergy is less strongly marked in comparison with VIDOGUM L. Through the addition of VIDOGUM SP-SYN, the gelling structure will become considerably more elastic. The gelling optimum in aqueous solutions – k-Carrageenan: VIDOGUM SP lies at 70 : 30.

Together with xanthan, VIDOGUM SP-SYN forms smooth gels that are used, in particular, for culinary products. The gelling optimum in aqueous solutions of xanthan: VIDOGUM SP-SYN lies at 50 : 50. With VIDOGUM SP-SYN, this gel already forms at room temperature – a relevant gelling delay does not have to be taken into account.

APPLICATION AREAS



Dairy and dessert products

Fruit products and soft drinks

Culinary products

Meat products

Organic products

Dietary and pharmaceutical products

Your product

Areas of use

VIDOGUM SP-SYN is used in many different applications. The characteristics, benefits and application possibilities listed here can thereby only represent a selection.

Characteristics and benefits




VIDOGUM SP-SYN synergetically combines the benefits of VIDOCREM and VIDOGUM SP

Characteristics similar to VIDOCREM

- Higher dosages are possible without thereby achieving viscosities that are too high (reduced chain lengths):
 - Considerably improved syneresis reduction
 - Improved mouth-feel-> ideally suited for fat-reduced products
 - Better stabilisation of essential oils (e.g., in lemonades)
- Lower pseudo-plastic behaviour due to the reduced chain length:
 - Creamier mouth-feel
 - Thin and even flow behaviour, as with VIDOGUM L
- Further differences in comparison with VIDOGUM SP
 - Outstanding suitability for cold applications, no subsequent swelling
 - Can be used in saccharose solutions up to 70% (cf. VIDOGUM SP: only up to 60%)

Characteristics similar to VIDOGUM SP

- Synergy with k-Carrageenan, agar-agar -> Strengthening of the gel network -> cost reduction
- Increase of the elasticity of k-Carrageenan gel networks
- Already forms gels at room temperature (-> synergy) with xanthan (-> mayonnaise, dressings)
- Synergetic viscosity increase together with native and modified starches and Xanthan
- Stable for freezing and defrosting -> suitable for deep-freeze products

Product Group	Dosage [%]	Benefits in final product using a selected example
 Dairy and dessert products	0.3 – 0.6	Fat-reduced, thermally treated cream cheese and quark desserts – with k-Carrageenan: <ul style="list-style-type: none"> • Creamy and at the same time full-bodied mouth-feel in comparison to native tara gum (-> "fat replacer") • Gelling network is smoother and more elastic • Outstanding syneresis prevention due to the possibility of higher dosages • As a rule, an addition before the fermentation requires the following pre-conditions: Fat content: > 14%; Use of additional hydrocolloid as a stabiliser (e.g., pectin, agar-agar) • Good aroma release
 Fruit products and soft drinks	0.2 – 0.6	Fruit desserts, soft jellies – with pectin, agar-agar, modified starch or xanthan: <ul style="list-style-type: none"> • Specially suited for fruit desserts (light gelling with xanthan) • Increase of the elasticity and shine of fruit gums with agar-agar in comparison to pure agar-agar • Outstanding aroma and acidity release (-> feeling of freshness) • Solubility in saccharose solutions up to 70%. • Good aroma release
 Culinary products	0.2 – 0.6	Mayonnaise, dressings – with xanthan and modified starches produced cold and hot: <ul style="list-style-type: none"> • Forms a weak gel with xanthan (-> very pleasant mouth-feel) • Gelling with xanthan, even with cold processes, no relevant gelling delay • Syneresis reduction • Due to the full-bodied and creamy mouth-feel, is particularly suited for fat-reduced mayonnaise • Stable for freezing and defrosting and is therefore outstandingly suitable for deep-freeze products • Good aroma release