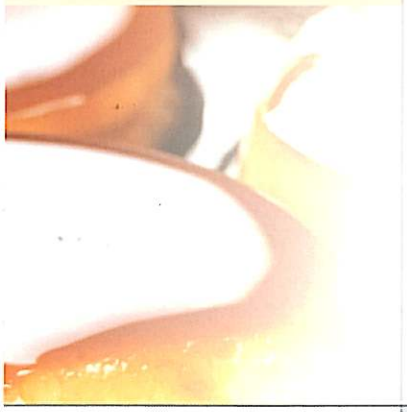
unipektin

# VIDOCREM

## (Viscosity-reduced guar gum)

www.unipektin.com



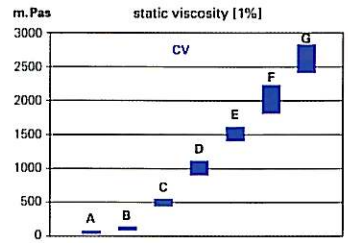
## Raw Material

VIDOCREM (Guar Gum E 412) is extracted from endosperm of the "Cyamopsis tetragonoloba L." busch. Contrary to locust bean gum and tara gum it is culitvated rurally. The active chain-shaped hydrocolloidal molecules belong to the Galactomannan group. Origin: India, Pakistan.

## Production

Separation of the endosperms, hot-water extraction (-> neutral tasting VIDOGUM GH), milling, sifting, thermal viscosity reduction, standardisation.

## Characteristics




### Viscosity

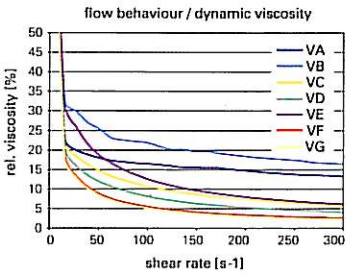
**VIDOCREM – the special product with reduced viscosity.**

VIDOCREM A – G covers a wide range of viscosities.

Compared to VIDOGUM GH (native guar gum), however, this range is at a considerably lower viscosity level. When interpreting the viscosity values, it must be taken into consideration that there is an exponential relationship between viscosity and dosage. In this way, you can obtain a viscosity range comparable to VIDOGUM GH with an approx. fourfold dosage of VIDOCREM.

As a result of the viscosity reduction, the following direct effects can be achieved:

- Very good cold solubility: there is practically no difference between the hot and the cold viscosity
- Considerably higher dosages can be used without resulting in too much viscosity.
  With the decoupling between dosage and viscosity, new and unique characteristics are achieved.




### Flow behaviour

The flow behaviour and the mouth-feel that this produces are considerably less pseudo-plastic than with VIDOGUM GH. 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 ball. Globular molecules (such as, for example, starch) accordingly demonstrate no pseudo-plastic flow behaviour. As shearing also take place in the mouth while eating, VIDOCREM produces a pleasant and creamier mouth-feel than VIDOGUM GH. An excessive viscosity reduction will be experienced as slimy, while a weak viscosity reduction corresponds to the mouth-feel of starch. Molecular weights (approx.):

VIDOGUM GH: 4,000,000 u
VIDOCREM D: 2,600,000 u
VIDOCREM A: 1,600,000 u

The shorter the chain length, the less pseudo-plastic will be the behaviour of the product. With the VIDOCREM A-G range, a complete palette of flow behaviours and mouth-feel can be presented in this way. VIDOCREM is outstandingly suitable for the build-up of creaminess, and, in this sense, can be regarded as a cost-effective alternative to VIDOGUM L in many cases.

Comparison of the mouth-feel:

VIDOGUM L: creamy <-> VIDOCREM: creamy, full-bodied <-> VIDOGUM GH: slimy

APPLICATION AREAS


Dairy and dessert products


Fruit products and soft drinks

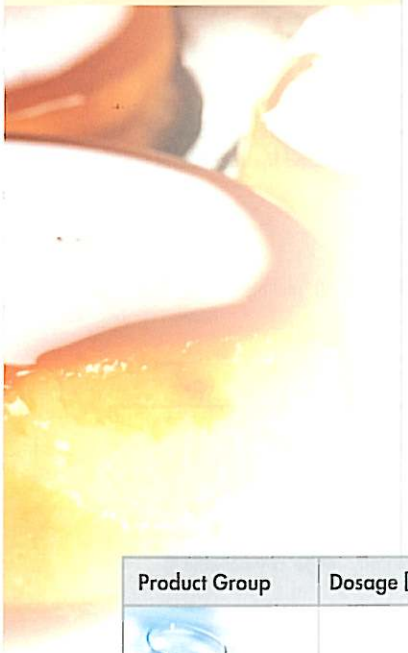

Culinary products


Meat products


Organic products


Dietary and pharmaceutical products

Your product



## Areas of use

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

## Characteristics and benefits

- 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 lemonade)
- Less pseudo-plastic behaviour due to the reduced length of the chains:
  - Creamy, non-slimy mouth-feel,
  - Fibre-shaped, non-slimy flow behaviour
- Other differences in comparison to VIDOGUM G 200I
  - Outstanding suitability for cold applications, no subsequent swelling
  - Significantly improved aroma release
  - Considerably improved taste neutrality, practically tasteless
  - Can be used in saccharose solutions up to 55% (VIDOGUM G200 I: only up to 40%)
- 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 | 0.2 – 0.6 | VIDOCREM A, B, C, D: dairy products, dairy desserts, fruit quark, instant desserts- together with gelatine or modified starch:<br>• Creamy mouth-feel, full-bodied taste, improvement of spreading and spooning capability<br>• Tasteless<br>• Good aroma release<br>• Syneresis prevention<br>• As a rule, an addition before fermentation requires the following conditions: fat content: > 14%; Use of additional hydrocolloids as stabilisers (e.g., pectin, agar-agar) |
|  Fruit products and soft drinks | 0.6 – 1.2<br><br>0.2 – 0.6 | VIDOCREM A: fruit preparations for yoghurt drinks (effect in the yoghurt drink)<br>• Build-up of mouth-feel, creaminess, syneresis prevention<br>• Solubility in saccharose solutions up to 55%<br><br>VIDOCREM A, B, C, D: basic beverage ingredient with essential oils (effect in the beverage)<br>• Stabilisation essential oils<br>• Build-up of mouth-feel, particularly for concentrats without sugar or with a low fruit share<br>• Solubility in saccharose solutions up to 55% |
|  Culinary products | 0.1 – 0.4 | VIDOCREM A, B, C, D: mayonnaise and Dip sauces with low fat content<br>• Improvement of creaminess, full-bodied taste<br>• Smooth silky structure<br>• Syneresis reduction<br>VIDOCREM G, F: Soups and sauces, also Instant<br>• Improvement of creaminess, full-bodied taste<br>• Outstanding Instant capability |
|  Meat products | 0.1 – 0.3 | Syneresis prevention<br>VIDOCREM A very successful against syneresis due to the possibility of high dosages -> is of special interest for vacuum-packed sliced sausage goods with a low meat content. |
|  Organic products | | VIDOCREM (conventional guar gum) may be used for the production of organic products within the framework of the current EU directives. |
|  Dietary and pharmaceutical products | 0.1 – 0.6 | In principle, many similar applications as for dairy products, desserts, soups and sauces:<br>• Tasteless<br>• Creaminess and full-bodied taste (fat deduced products)<br>• Instant products (beverages, desserts, soups and sauces) |