

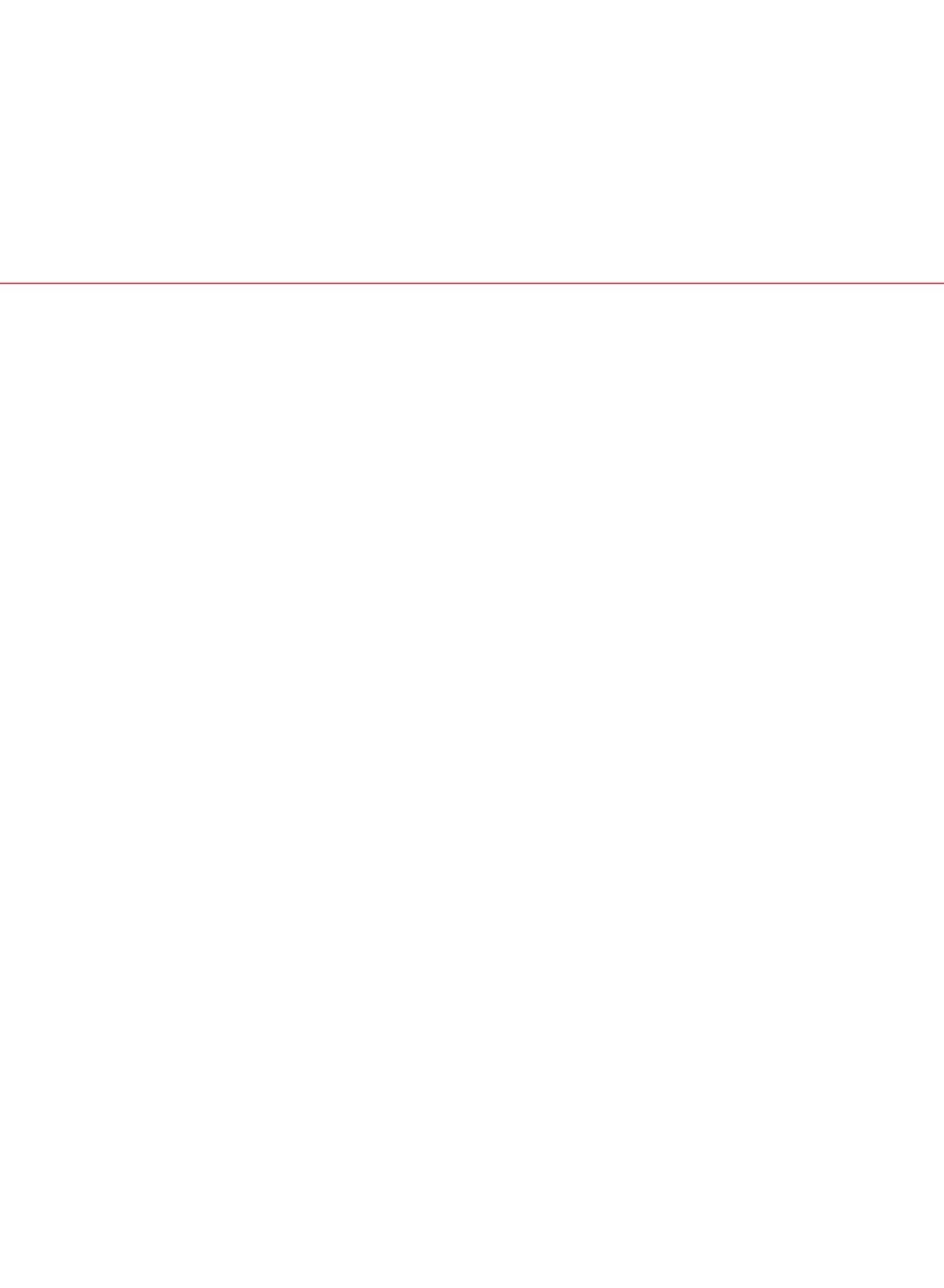


## ORGANIC-CERTIFIED STARCHES FOR COSMETICS



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**AGRANA STARCH**





## AGRANA'S ORGANIC STARCHES FOR COSMETICS

AGRANA's organic certified starch products will contribute to create new or improved organic formulations.

### ORGANIC CERTIFICATION

AGRANA is supervised and certified for organic production by company "Austria Bio Garantie":

- according to EU-regulation 834/2007 in the valid version
- according to the US-standard NOP

Therefore the products correspond to the various requirements of organisations defining standards for natural and organic cosmetics like ECOCERT, NaTrue, NSF, OASIS, BDIH etc.



### GENERAL INFORMATION

For the cosmetic sector, AGRANA developed 2 organic starches and 2 organic maltodextrins. Starches are renewable carbohydrates obtained by physical separation from organically farmed waxy corn. Waxy corn is a specially bred corn variety. Waxy corn starch contains only highly branched amylopectin and is amylose-free. Starch is a polymer of glucose units used by nature as a reserve and is packed in insoluble granules.

## PRODUCTS

Being totally natural AGRANA's organic starches are extremely gentle on the skin (pH-neutral) and also show a good biodegradability. They possess a superbly low microbiological count.

AGRANA guarantees that these organic starch products are

- GMO-free and
- no animal testing was conducted during their development

## QUEMINA<sup>®</sup> 21.257

INCI: Zea Mays Starch (=corn starch)

is a pregelatinized (= instant) organic waxy corn starch which was already precooked by AGRANA.

When it is added to the water phase it swells, binds water and provides viscosity.

QUEMINA<sup>®</sup> 21.257 is used as rheology modifier in emulsions and is favourably used in combination with other hydrocolloids like xanthan. Xanthan gum could provide sufficient thickening power, but a xanthan gel results in a rubbery and unpleasant skin-feeling. By adding QUEMINA<sup>®</sup> 21.257 positive synergistic effects on the texture and skin-feeling of the final emulsion can be achieved with a typical dosage of approx. 4 % QUEMINA<sup>®</sup> 21.257. It also contributes to thickening and stabilizes texture.

Effects:

- pleasant skin-feeling (synergistic effects with xanthan on texture)
- thickening and stabilization of emulsions
- mattifying

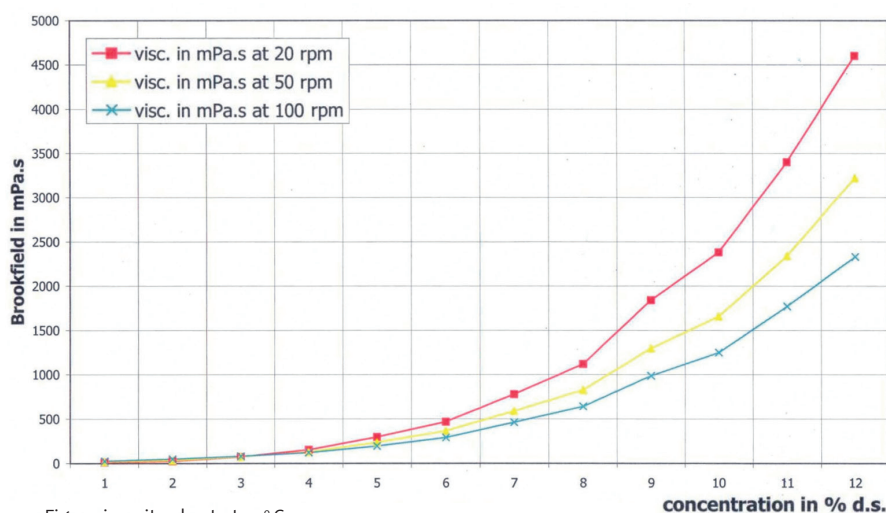


Fig 1: viscosity chart at 23°C

QUEMINA<sup>®</sup> 21.257 requires moderate heat for complete solubilization in water.

QUEMINA<sup>®</sup> 21.257 is shear-thinning. With prolonged cooking time and shear treatment final viscosity will be reduced.

*Hint for application*

*To avoid lumping we recommend that QUEMINA<sup>®</sup> 21.257 is pre-dispersed in part of the oil fraction and then added slowly to the aqueous phase.*



## AGENAJEL® 21.387

INCI: Zea Mays Starch (=corn starch)

is a native organic certified waxy corn starch with intact starch granules. Native starch is well dispersible in water. Only after cooking a suspension to approx. 80 °C the starch gelatinizes and adds viscosity.

AGENAJEL® 21.387 can be applied

- in dry powder form as powder base for
  - loose and compact powders
  - baby and body powder (e.g. talcum substitution)
- in emulsions either with hot or cold processing

### APPLICATION IN EMULSIONS:

By choosing either a hot or cold applications users can decide if the starch will remain in granular form or if it will be fully gelatinized. Hereby different objectives can be reached:

As a hot process (objective: texturiser):

AGENAJEL® 21.387 is dispersed in the aqueous phase and stirred until emulsification occurs. At temperatures of approx. 80 °C it will start gelatinizing and the granules will rupture.

If AGENAJEL® 21.387 is cooked in this way it will show similar effects to QUEMINA® 21.257 as rheology modifier:

- pleasant skin-feeling (synergistic effects with xanthan on texture)
- thickening and stabilization of emulsions
- mattifying

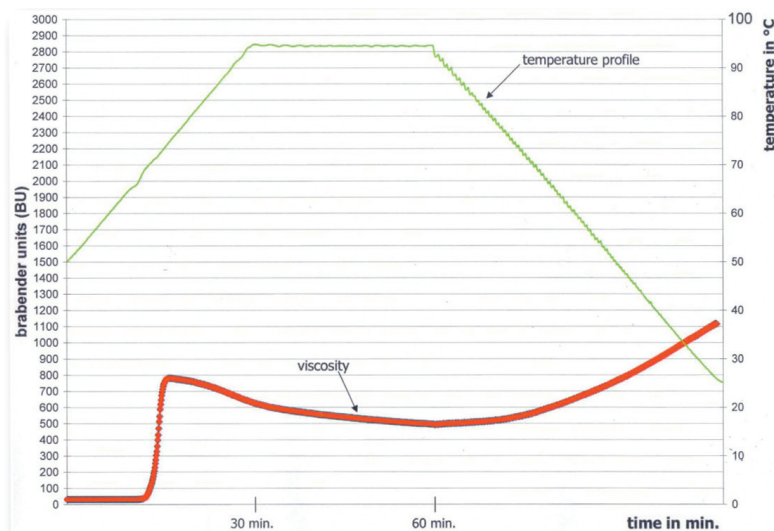


Fig 2:  
**brabender curve**  
reflects processing  
behaviour during  
emulsification  
process.

As a cold process (objective: reduction of greasiness):

AGENAJEL® 21.387 can be dispersed in pre-emulsified emulsions during the cooling phase – e.g. at about 45 °C prior to commencing the cold stirring phase with a holding time of min. 15 minutes in order to achieve a homogeneous dispersion.

Applying AGENAJEL® 21.387 in this cold process the starch granules will not be destroyed and similar effects as to CORN PO<sub>4</sub> PH "B"® can be achieved (see separate brochure):

- reduction of greasiness and stickiness
- mattifying effect

Reduction of greasiness and stickiness can be a major objective especially in cases where "heavy" emulsions with natural oil are involved.



## AGENAMALT® 20.233 and AGENAMALT® 20.235

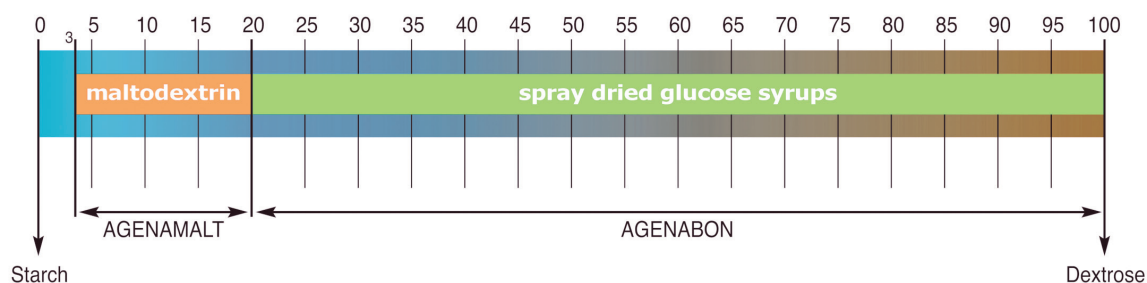
INCI: maltodextrin

AGENAMALT® is the brand name for AGRANA's range of maltodextrins.

Organic (waxy) corn starch – the base material for the production of AGENAMALT® - consists of the component glucose (dextrose). By hydrolysis with enzymes the glucose chains are cut into smaller fragments, resulting in a mix of glucose, maltose (2 glucose units), maltotriose (3 glucose units) and higher saccharides.

The degree of saccharification is stated as DE-value (Dextrose Equivalent), which reflects the percentage of reducing sugars - expressed in glucose units.

DE-value spectrum:



**AGENAMALT® 20.233:** organic maltodextrin DE 6 based on waxy corn starch

**AGENAMALT® 20.235:** organic maltodextrin DE 19 based on corn starch

AGENAMALT® show good free-flowing properties, excellent solubility in cold water and a slightly hygroscopic character.

Benefits when used in cosmetics:

- clear, transparent solution
- carrier for plant extracts like Aloe Vera
- filler

Typical applications for AGENAMALT®:

- creams and lotions
- soaps, bath and shower gels
- powder make-up

By using organic certified maltodextrins the content of organic ingredients in formulations can be increased.

# AGRANA. THE ORGANIC UPGRADE.

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This paper contains starch produced by AGRANA!