



## AGRANA'S STARCHES for DECORATIVE COSMETICS



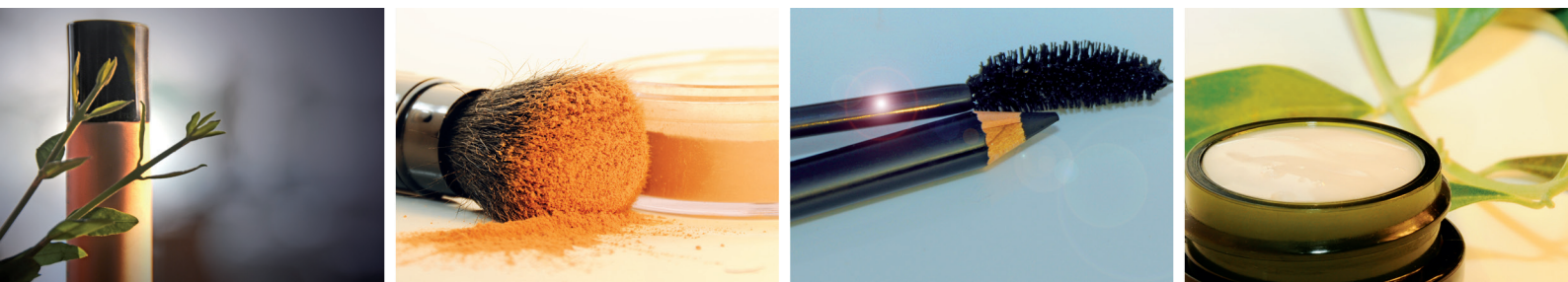
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AGRANA STARCH

## PRODUCT OVERVIEW

PRODUCT NAME	INCI	ADDITION OF STARCH BEFORE / AFTER EMULSIFICATION	CERTIFICATION
<b>BOILING-RESISTANT STARCHES</b>			
CORN PO <sub>4</sub> PH "B"	DISTARCH PHOSPHATE	BEFORE	COSMOS, NaTrue, NPA (USA)
RICE PO <sub>4</sub> NATURAL	DISTARCH PHOSPHATE	BEFORE	COSMOS
RICE NS	DIMETHYLIMIDAZOLIDINONE RICE STARCH	BEFORE	
<b>NATIVE STARCHES</b>			
MAISITA 9040	ZEA MAYS (CORN) STARCH	AFTER	COSMOS
REISITA NATURAL	ORYZA SATIVA STARCH	AFTER	COSMOS
TAPIOCA NATURAL	TAPIOCA STARCH AFTER	AFTER	COSMOS
<b>LIPOPHILIC STARCHES</b>			
AGENAFLO 9050	CORN STARCH MODIFIED	AFTER	
AGENAFLO OS 9051	ALUMINUM STARCH OCTENYLSUCCINATE	AFTER	
<b>ORGANIC CERTIFIED PRODUCTS</b>			
AGENAJEL 21.387 – organic certified waxy maize starch	ZEA MAYS (CORN) STARCH	AFTER	ORGANIC
MAISITA 9060 – organic certified maize starch	ZEA MAYS (CORN) STARCH	AFTER	ORGANIC
QUEMINA 21.257 – organic certified maize starch	ZEA MAYS (CORN) STARCH	AFTER	ORGANIC
AGENAMALT 20.233 AGENAMALT 20.235	MALTODEXTRIN MALTODEXTRIN		ORGANIC ORGANIC





## AGRANA'S STARCHES FOR DECORATIVE COSMETIC

### THE FINEST BOTANICAL POWDERS FOR COSMETICS

AGRANA Stärke GmbH has a broad range of experience with starches in personal care.  
AGRANA's name is synonymous with refinement of NATURAL, RENEWABLE RAW MATERIALS.

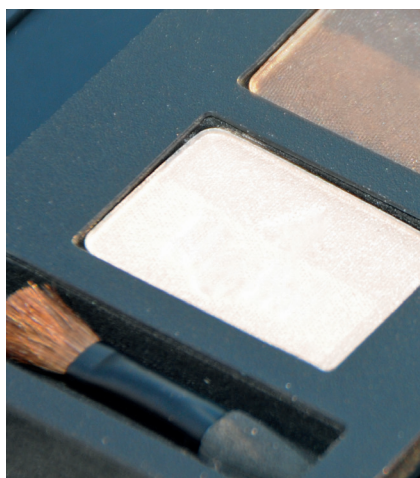
### HISTORY OF STARCH USAGE FOR COSMETICS

FAR EAST 500 AD: women used starch to appear as white as porcelain

JAPAN: men and women applied face powder as a sign of aristocracy

ROMAN EMPIRE 200 AD: women used face creams to appear younger

EUROPE 17th - 18th CENTURY: men and women applied powder on faces and wigs

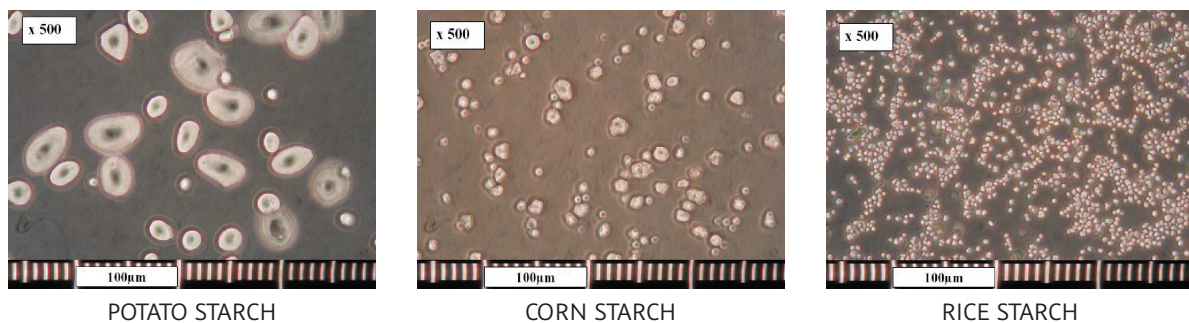


## PARTICLE SIZE

Starch granules from different botanical origins differ a lot in size and shape.

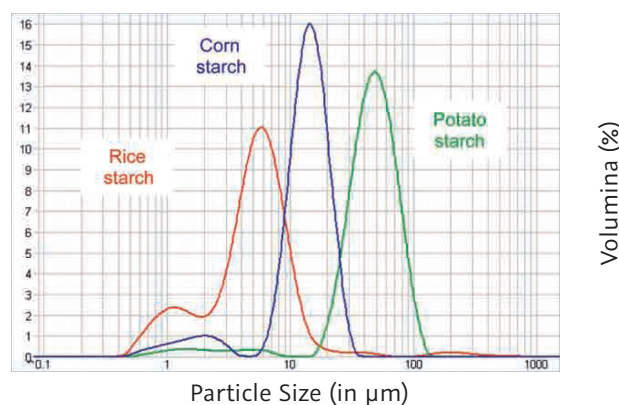
Rice starches are among the smallest of vegetable powders, measuring approx. 8  $\mu\text{m}$ . This inherent fineness leads to an extraordinary increase in surface area. Approximately 1.0g has a surface area of 1.6m<sup>2</sup> resulting in exceptional adsorption and absorption characteristics.

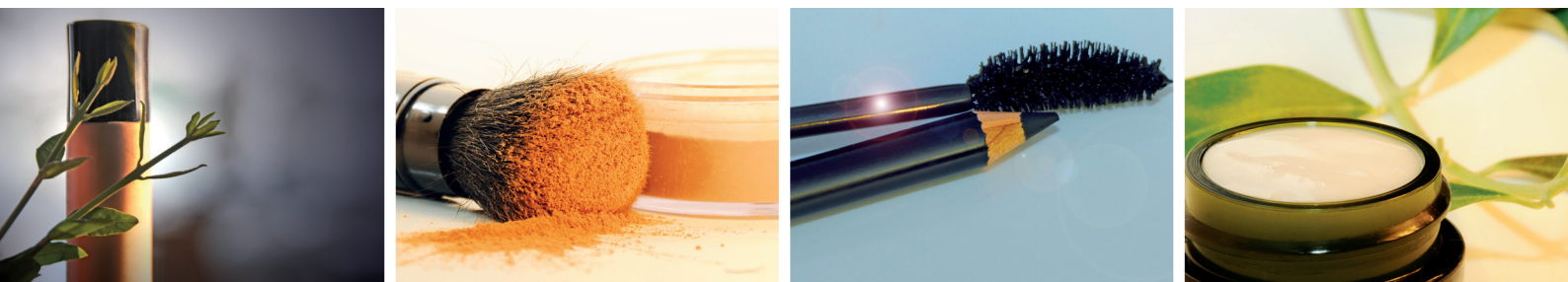
Fig. 1: microscope, zoom 1:500



The shape, size and appearance of AGRANA rice starch products are equivalent to those of native rice starches. They are much finer than corn or potato derived products and as a result the rice based products exhibit an extraordinary soft-touch effect. AGRANA rice starches are therefore ideal to meet today's demands for decorative cosmetics as well as those for skin and hair care.

Fig. 2: particle size distribution





## OIL ABSORPTION

The ability of ingredients used in decorative cosmetics to exhibit oil absorption properties is vital in maintaining a long-lasting, even matte appearance on the skin.

When tested with Jojoba Oil, which is often regarded as the vegetable oil that most closely resembles human sebum, rice starches were shown to have particularly high oil absorption.

	absorption g Jojoba oil / 10g starch
Talkum Food VWR	3,7
Talc Imperial 1820 LBC	3,7
Talc IMB 1886 LBC	5,2
AGENAFLO OS 9051	4,0
AGENAFLO 9050	4,2
CORN PO <sub>4</sub> PH“B“	4,3
TAPIOCA NATURAL	4,3
REISITA NATURAL	5,9
RICE PO <sub>4</sub> NATURAL	6,3

Full test protocol available on request.

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## APPLICATIONS

### ● POWDER PRODUCTS (LOOSE AND PRESSED)

Fine powders gently provide a mattifying appearance and fix make-up. Starches provide a (partial) alternative to talc and mica. Starches can

- absorb sebum
- enhance skin feel
- and improve the stability of pressed powders

Corn starch has a similar particle size range to that of mica (2 – 25µm) whereas rice starches are even finer (approx. 8µm) and exhibit an extraordinary soft-touch. The large surface allows a fine distribution of both functional and active ingredients.

### ● EMULSION PRODUCTS

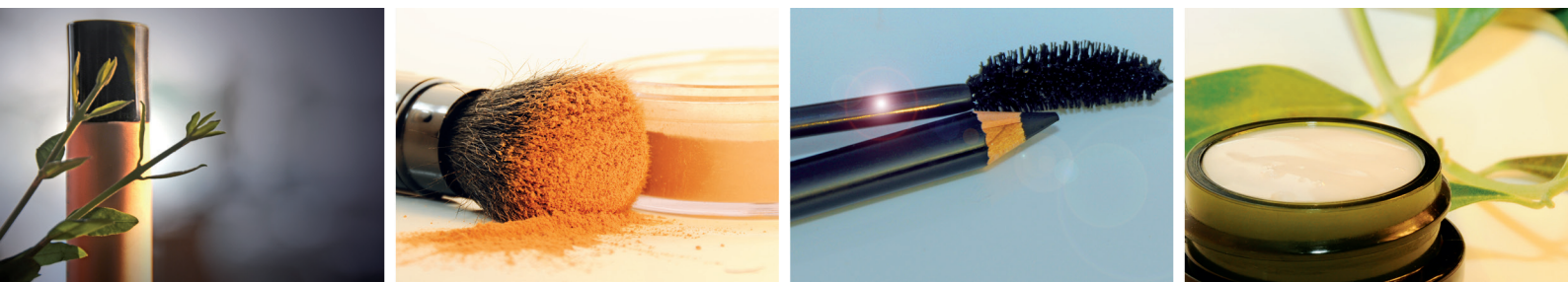
#### BOILING RESISTANT STARCHES

The optimum production technique for these starches is to disperse them in the aqueous phase and stir until emulsification occurs. These cross-linked starches absorb and adsorb some of the water phase. Due to the adaptive properties of these starches some of the oil phase then is attached to the water-starch-phase during emulsification. This results in slow release of the emulsion on application.

#### BENEFITS OF USING BOILING RESISTANT STARCHES IN EMULSION PRODUCTS

- Pleasant and silky-soft touch
- Enhanced efficacy of active skin care ingredients
- Long lasting moisturising effect
- Improved spreadability
- Mattifying effect - reduces the shine imparted by oils and waxes used in oil phase





## LIPOPHILIC STARCHES

Lipophilic starches are added after emulsification and mitigate greasy feel of oil phase ingredients.

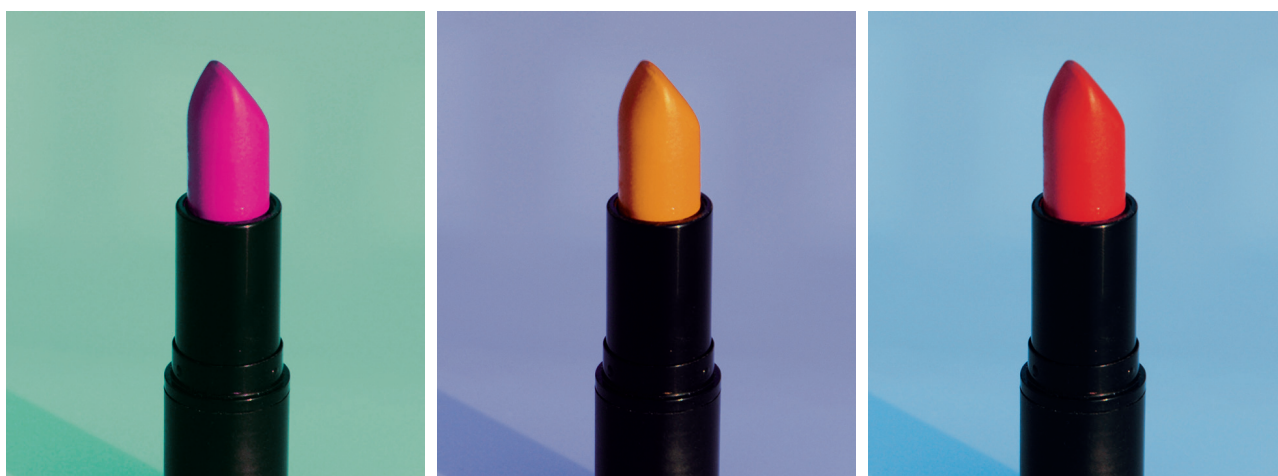
## NATIVE (ORGANIC) STARCHES

Can be added prior to or post emulsification to achieve different effects. When added prior to emulsification they provide a natural thickening and emulsion stabilisation. The granules swell with heat and then gelatinise and rupture providing the viscosity. When added post emulsification (approx. 40°C), the starch maintains its granular form giving a silky skin feel.

## ● ANHYDROUS PRODUCTS

Starches reduce the greasy feeling after applying the cream to the skin.

In applications like lipsticks, rouges and pencils starches are added in order to achieve further even and truer colour pay-off. Lipophilic Starches can be used to give a more matte appearance.



# AGRANA. THE NATURAL UPGRADE.

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