

EMULSIFIER FREE SERUM

Create your individual magic texture

with AGRANA's NATIVE GRANULAR STARCHES

"Formulated and developed by Azelis Personal Care"

The combined use of partially cooked native starch and granular native starch (addition after cooling down to 45°C) enable the formulation of emulsifier free aqueous cosmetic products with special texture and improved sensorial skin feel effects.

Ingredients	INCI-Name	Form A % w/w	Form B % w/w	Form C % w/w	Form D % w/w	Supplier
Phase A						
Deionised Water	Aqua	87,00	87,00	87,00	87,00	
STÄRKINA NATURAL	Solanum Tuberosum Starch	2,50	-	-	-	AGRANA
REISITA NATURAL	Oryza Sativa Starch	-	2,50	-	-	AGRANA
TAPIOCA NATURAL	Tapioca Starch	-	-	2,50	-	AGRANA
MAISITA 9060	Zea Maize (Corn) Starch	-	-	-	2,50	AGRANA
Keltrol CG SFT V	Xanthan Gum	1,00	1,00	1,00	1,00	Azelis
Glycerin	Glycerin	3,00	3,00	3,00	3,00	
Phase B						
STÄRKINA NATURAL	Solanum Tuberosum Starch	5,00	-	-	-	AGRANA
REISITA NATURAL	Oryza Sativa Starch	-	5,00	-	-	AGRANA
TAPIOCA NATURAL	Tapioca Starch	-	-	5,00	-	AGRANA
MAISITA 9060	Zea Maize (Corn) Starch	-	-	-	5,00	AGRANA
Yummy Honey	Parfum	0,50	0,50	0,50	0,50	
Geogard Ultra	Gluconolactone, Sodium Benzoate, Calcium Gluconate	1,00	1,00	1,00	1,00	Azelis

MANUFACTURING INSTRUCTIONS:

Phase A: Make a premix and heat up to 65°C with stirring. Hold temperature for 15 min. Cool down to 40°C whilst stirring. Add Phase B to the batch and mixing until homogenous.



AGRANA Starch / AGRANA Stärke GmbH

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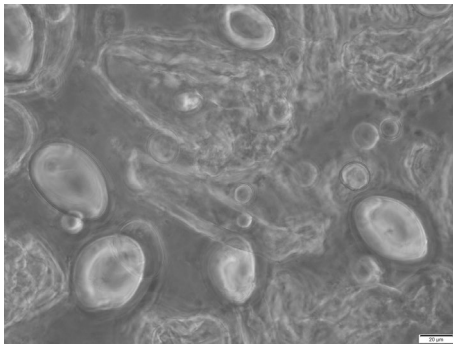
DESCRIPTION:

Due to their crystalline structure, the particles of granular cook-up starches show minimal swelling in cold water. If the natural granular starches are intensively cooked ($\sim > 85^{\circ}\text{C}$) in aqueous solutions (gelatinization process), they will lose their granular structure, changed to large solubilized amorphous particles and built up viscosity.

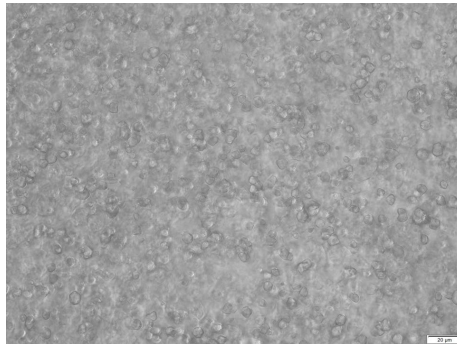
With moderate cooking ($\sim 65^{\circ} - 75^{\circ}\text{C}$), partially gelatinized, large and soft particles are obtained, whereby their degree of solubilization / swelling varies, depending on used starch raw material and cooking intensity. In combination with native granular starches (addition after cooling down to 45°C) such partially cooked particles enable the formulation of cosmetic products with special texture and improved sensorial skin effects.

Microscopy pictures of Formulations with combined use of granular native starches
(partially cooked with 65°C and addition after cooling down to 40°C)

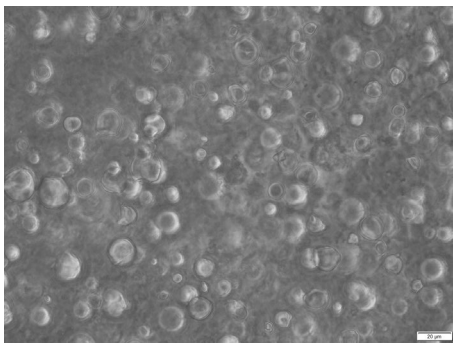
Form A: with STÄRKINA NATURAL



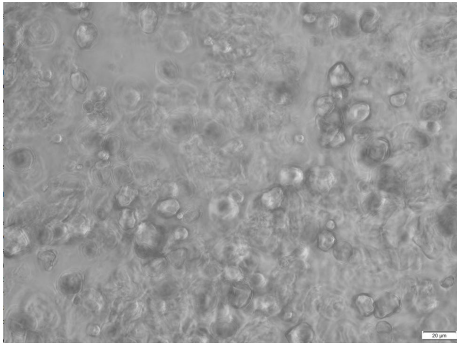
Form B: with REISITA NATURAL



Form C: with TAPIOCA NATURAL



Form D: with MAISITA 9060



COMMENT:

Various granular raw materials have different particle sizes and gelatinization temperatures. The pictures show original granular starch particles and larger partially-cooked soft particles which influence the texture, spreadability and sensory feel on skin.

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