

**PURE NATURAL**

FORMULATIONS & TEST REPORT

No1. YOUR NEW CONCEPTS WITH ONLY NATURAL INGREDIENTS



# HAIR STYLING FOAMS

***NEW***

*STARCHES as natural film forming and thickening solutions for styling applications*

JANUARY 2021



## GOING GREEN

### NATURAL HAIR STYLING MOUSSE

*Natural, sustainable, plant based material with optimal functionality without sacrifice or compromise – the market demand of today's consumer. AGRANA introduce to the beauty industry the solution – Going Green with AGRANA styling range, the latest collection.*

AGRANA is GOING GREEN with an innovative styling mousse concept using only NATURAL ingredients. Current market benchmarks often use synthetic polymers and quaternary compounds such as polyacrylates, acrylate copolymers and polyquaterniums while consumers have the increasing desire to use greener and more sustainable products. AGRANA has now developed an outstanding hair styling mousse that is 100% natural. A unique combination of starches and natural ingredients now offers a synthetic polymer free styling solution that meets or exceeds typical characteristics of benchmark formulations with improved high humidity curl retention and elastic polymer films with excellent hair feel.

This styling mousse development follows a recent launch of a "Dry Shampoo Mousse" formulation which is based on the COSMOS certified ingredient RICE PO<sub>4</sub> NATURAL. AGRANA is committed to continue to offer natural solutions for Hair Care and Skin Care applications. This 100% natural styling mousse concept allows styling product formulators to GO GREEN with the AGRANA offering of NATURAL RHEOLOGY THICKENERS & NATURAL STYLING STARCHES based upon their technology range including MALTODEXTRIN and HYDROLYZED CORN STARCH.

### THE CLEAN BEAUTY FORMULA

*The perfect combination of AGRANA starch offering different functionalities = improved foam volume + superior curl retention + longevity cleansing benefits*

	PRODUCT	INCI	FORM	THE BIG GREEN PLUS	NATURALITY
ABSORBENT	RICE PO <sub>4</sub> NATURAL	<i>Distarch Phosphate</i>	Particulate starch	<ul style="list-style-type: none"> <li>Enhanced absorption of oils and sebum ("dry shampoo effect"), longevity cleansed effect between application</li> </ul>	COSMOS
THICKENER	AGENAJEL 20.306	<i>Distarch Phosphate</i>	Cold water swellable	<ul style="list-style-type: none"> <li>Foam structure and stability providing a dense, tight, creamy, fine texture</li> </ul>	COSMOS
	AGENANOVA 30.326	<i>Maltodextrin</i>	Cold water soluble	<ul style="list-style-type: none"> <li>Strong styling effect, perceivable film on the hair shaft</li> </ul>	COSMOS
STYLING	AGENABON 20.219	<i>Hydrolyzed Corn Starch</i>	Cold water soluble	<ul style="list-style-type: none"> <li>Natural hold and curl retention, no perceived after hair feel</li> </ul>	COSMOS

## YOUR 2 GUIDE FORMULATIONS FOR ENHANCED HAIR STYLING

	with AGENANOVA 30.326	with AGENABON 20.219
Aqua	Up to 100 %	
Xanthan Gum	0,15%	
Glycerin	0,5 - 2,0%	
Coco-Glucoside or Caprylyl/Capryl Glucoside	0,5 - 1,5%	
<b>Distarch Phosphate</b> (AGENAJEL 20.306)	2,8 %	2,4 %
<b>Maltodextrin</b> (AGENANOVA 30.326)	2,8 %	-
<b>Hydrolyzed Corn Starch</b> (AGENABON 20.219)	-	2,8 %
<b>Distarch Phosphate</b> (RICE PO <sub>4</sub> NATURAL)	1,9%	1,9%
pH Adjustment (Sodium Hydroxide, Citric Acid)	ad lib	
Preservative	ad lib	
Parfume	ad lib	
Propellant (Isobutane, Propane, Butane)	6,0 %	

### PROCEDURE

Disperse the xanthan gum by adding to the water whilst stirring to create a vortex.

Premix the glycerine and AGENAJEL 20.306, add to the batch, stir for 15 minutes allowing the starch to swell.

Add coco-glucoside and preservative, mixing until homogeneous between each addition.

### ADD SELECTED STYLING AGENT

Add AGENANOVA 30.326 or AGENABON 20.219 to the batch stirring for 15 minutes, until homogeneous.

Add RICE PO<sub>4</sub> NATURAL, stirring until homogeneous.

Adjust to pH 5.0. Add remaining raw materials, mixing until homogeneous between each addition.

Fill into cans and add propellant.

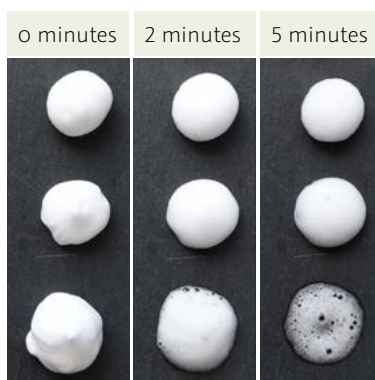
## STRUCTURE & STABILITY

### FOAM STABILITY

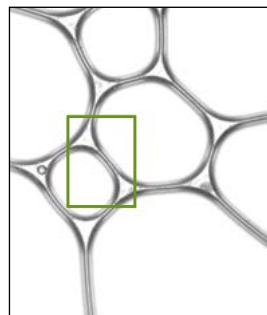
The new NATURAL Styling Mousse formulations offer foam creations with the opportunity to enhance or modify foam longevity and stability. During application, the foam easily breaks and provides a fine, even film on the hair surface that delivers the desired styling properties with an excellent hair feel.

### FOAM IMPROVEMENT

The unique combination of starch (AGENAJEL 20.306 and RICE PO<sub>4</sub> NATURAL) improves foam structure (fine porosity), creating a rich, creamy, tight, dense foam with exceptional longevity and stability.



The unique combination of starch forms a fine stabilising film around the air bubble.



## TEST RESULTS vs. Bench Market Product by the accredited testing laboratory

The 2 guide formulations were tested against a benchmark formula – a standard renowned market product with a styling hold grade 3 (INCI i.a. VP/VA Copolymer, Polyquaternium-11, Polyquaternium-4, PEG-40 Hydrogenated Castor Oil et al).

### CURL RETENTION

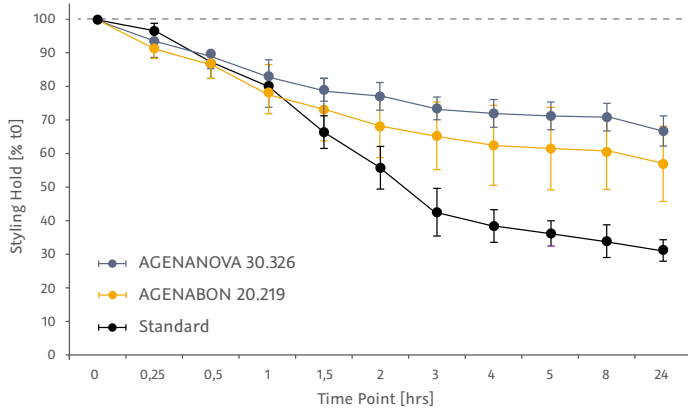


Fig. 1. Comparison change in length of curled hair swatches, 24 hrs. 80 % moisture.

### RESULT

Natural Styling Mousses with AGENANOVA 30.326 and AGENABON 20.219 show an excellent high humidity curl retention around 60% which meets or exceeds the typical requirements and properties of benchmark formulations that are based on synthetic polymers.

### STYLING PERFORMANCE

#### STIFFNESS (strength of styling hold)

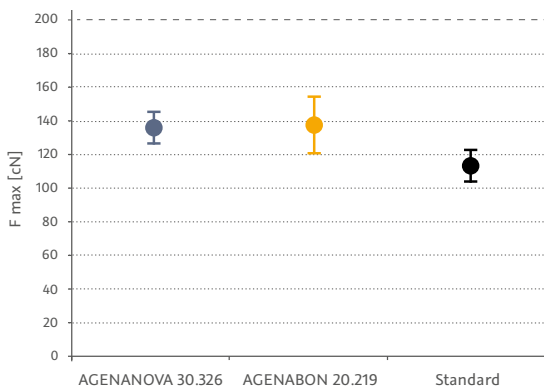


Fig. 2. Maximum force (mean ± standard deviation) in 3 point-bending stiffness.

#### ELASTICITY MODUL ("memory effect")

Test Item/Identification	E [N/mm <sup>2</sup> ]
● AGENANOVA 30.326	608 ± 81
● AGENABON 20.219	580 ± 50
● Standard	543 ± 104

Tab. 1. E (N/mm<sup>2</sup>) parameter correlating with polymer flexibility

### RESULT

Natural Styling Mousses with AGENANOVA 30.326 and AGENABON 20.219 show a stiffness/hold profile and elasticity module that meets or exceeds the properties of benchmark formulations that are based on synthetic polymers.

## THE ALL NATURAL STYLING SOLUTION

Formulate your natural GREEN styling mousse with AGRANA's unique and functional starches.

