CUSTOMIZED





PERFECT THICKENING SOLUTION

RHEO2GREEN SERIES

ONE OF THE CHALLENGES FOR FORMULATING GLUTAMATES IS THE FORMATION OF A STABLE MICELLAR THICKENING SYSTEM. WITH THE RHEO2GREEN-SERIES, WE OFFER READY-TO-USE SURFACTANT CONCENTRATES, BUILDING UP A REMARKABLE VISCOSITY WITH OUTSTANDING SKIN FEEL AND EXCELLENT RHEOLOGICAL PROPERTIES.

After dilution of Rheo2Green products with water (approx. 1:3 to 1:5) and reducing the pH in a cold process, the viscosity will increase immediately, leading to desirable flow and foam behavior of cleansing formulations. This is an inventive way to thicken in absence of polymers.

- Rich fine-pored foam
- Outstanding micellar self-thickening at pH 4.8 5.4
- Cold processable
- Mildness to skin
- Good cleansing ability
- Free of sulfates, solvents, fragrances

| Product | INCI | Dry Matter (%) | P0 / PK0* | рН | Certification |
|----------------|--|----------------|-----------|-----|--------------------------------------|
| Rheo2Green1 | Aqua, Lauryl Glucoside, Disodium Cocoyl Glutamate | 42 | 0 / 16 | 9 | COSMOS |
| Rheo2Green1 MB | Aqua, Lauryl Glucoside, Disodium Cocoyl Glutamate | 42 | 0/7 | 9 | COSMOS, NATRUE, RSPO - MB** |
| Rheo2Green2 | Aqua, Lauryl Glucoside, Disodium Cocoyl Glutamate, Sodium Benzoate, Potassium Sorbate | 42 | 0 / 16 | 9 | COSMOS |
| Rheo2Green2 MB | Aqua, Lauryl Glucoside, Disodium Cocoyl Glutamate, Sodium Benzoate, Potassium Sorbate | 42 | 0/7 | 9 | COSMOS, NATRUE RSPO - MB** |
| Rheo2Green3 | Aqua, Sodium Lauroamphoacetate, Disodium Cocoyl Glutamate | 42 | 0 / 16 | 9.5 | COSMOS in progress |
| Rheo2Green3 MB | Aqua, Sodium Lauroamphoacetate, Disodium Cocoyl Glutamate | 42 | 0 / 10 | 9.5 | COSMOS in progress RSPO - MB** |

^{*} PO Palm oil / PKO Palm kernel oil (%)

SKIN CARE

- Shower gels
- Facial cleansing gels
- Micellar water
- Liquid hand soaps
- Medical soaps
- Baby bubble bath
- Wet wipes
- Shaving gels
- Natural / green / certified cosmetics
- Sulfate-free rinse-off products

HAIR CARE

- Mild baby shampoos
- Shampoos, conditioning shampoos

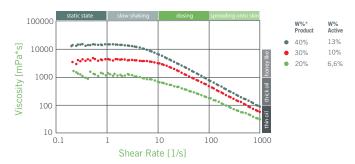
PET CARE

- Dog shampoos
- Mild cleaning products for pets

HOME CARE

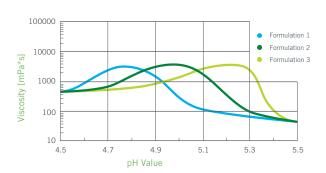
- Laundry detergents
- Mild surface cleaning
- Manual dish wash

NATURAL PERCEPTION OF VISCOSITY



Rheological properties are based on pure micellar thickening, which is responsible for the desired viscoelasticity. Such flow behavior provides perfect natural sensation that is important for consumer acceptance: honey-like at slow shaking, thick oil when dosing, thin oil during spreading onto skin.

THICKENING AT THE RIGHT pH



The optimal pH for the maximum of viscosity can slightly move, depending on the formulation composition. Some ingredients can have an influence on the efficancy of thickening. Moreover, viscosity can be regulated through the variation of Rheo2Green concentration.

^{**} RSPO Certificate Number CU-RSPO SCC-846664

BUBBLE BATH

| Part | INCI / Ingredient | % W/W |
|------|--|-----------|
| | Aqua | 60 |
| | RHE02GREEN3 MB Sodium Lauroamphoacetate, Disodium Cocoyl Glutamate, 42 % | 30 |
| А | PERLASTAN SL MB Sodium Lauroyl Glutamate, 25 % | 5 |
| | Aloe Barbadensis Gel | 2 |
| | Chamomilla Recutita Extract | 3 |
| В | Lactic Acid | qs to pH |
| С | Preservatives, Fragrances etc. | qs |
| | | |

PROPERTY

- Appearance: light yellowish, clear gel
- pH-value: 5.0
- Viscosity (Brookfield, Sp. 5.5 rpm, RT): 2500 2800 mPa·s

MANUFACTURING PROCEDURE

- Mix Part A until formulation is homogeneous
- Adjust pH-value with Part B
- Add Part C

ALL GREEN THICKENED SHAMPOO

| Part | INCI / Ingredient | % W/W |
|------|---|----------|
| A | Aqua | 49.5 |
| | RHE02GREEN1 MB Lauryl Glucoside, Disodium Cocoyl Glutamate, 42 % | 45.00* |
| В | Panthenol, 75 % | 2.50 |
| | Chamomilla Recutita Extract | 2.50 |
| | Hydrolyzed Wheat Protein | 0.5 |
| С | Lactic Acid | qs to pH |
| D | Preservatives, Fragrances etc. | qs |
| | · | |

Preservative might be based on Potassium Sorbate and Sodium Benzoate

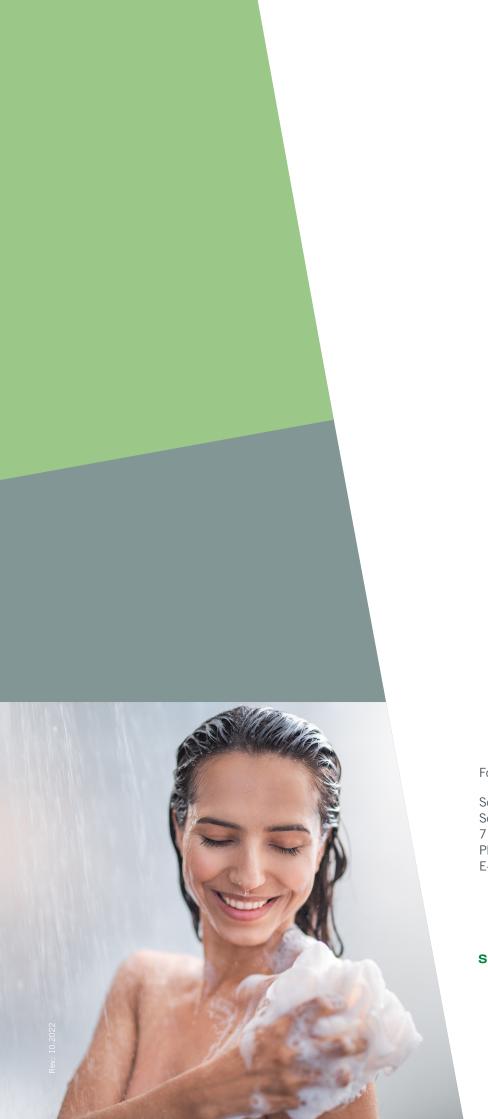
PROPERTY

- Appearance: light yellowish, clear gel
- pH-value: 4.8 5.0
- Viscosity

a.)* 45.00 % Part A: 4200 - 4500 mPa·s **b.)*** 37.50 % Part A: 1650 - 2900 mPa·s (Brookfield, Sp. 5.5 rpm, RT)

MANUFACTURING PROCEDURE

- Mix Part A
- Add Part B to Part A in listed order and mix until formulation appears homogeneous
- Adjust pH-value with Part C
- Add Part D



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