



SOLVAY

asking more from chemistry®

Rheomer® 33T

Innovative Rheological Agent
For Personal Cleansing Solutions

Beauty & Care



Rheomer® 33T

The future of texture

Personal cleansing formulations have become more and more sophisticated over time. Cleansing products now come in a variety of textures ranging from crystal clear formulations with suspended particles to pearlescent systems and oil-rich moisturizing shower creams. **Rheomer® 33T** answers the rheological needs of today's formulators in personal care.

Rheomer® 33T is a new hydrophobically-modified alkali-swellable emulsion (**HASE**) **polymer for personal cleansing formulations**. It is designed to provide efficient thickening, shear-thinning rheology & good suspension properties in **low-to-medium surfactant systems**.

Suggested Applications

- ▶ Crystal-clear Body Washes with suspended beads/capsules
- ▶ Pearlescent Body Washes and Shampoos
- ▶ Liquid Hand Soaps
- ▶ Facial Washes with exfoliating beads
- ▶ 2-in-1 Conditioning Shampoos
- ▶ Mild Baby Body Wash

Key Benefits

- ▶ **High thickening efficiency** in both sulfate-based and sulfate-free surfactant systems
- ▶ **Good suspension properties** in low-to-medium surfactant systems, **typically 6–13 wt% active surfactants**
- ▶ **Superior clarity** for pH > 6.3, with a high tolerance to salt
- ▶ Enhanced flash-foam & foam volume; high foam richness, whiteness & elasticity
- ▶ Pleasant cushiony in-use feel and clean-rinse properties
- ▶ Easy-to-use liquid form: suitable for cold process
- ▶ Good compatibility with cationic polymers

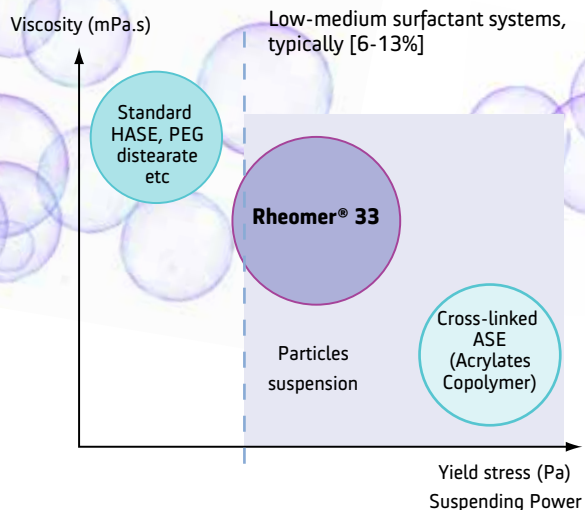
Formulate with Rheomer® 33T

Recommended use levels:

2 to 3 wt % active [6.5 to 11.0 wt % as supplied]

Recommended pH

- ▶ Effective at pH [4 -11], depending on the formulation
- ▶ pH > 6.3 for optimal clarity & viscosity



For formula where clarity is not required, pH can be adjusted below 6 if desired, after neutralization with alkaline solution. Suspension properties usually increase below pH 6.

Recommended surfactant content

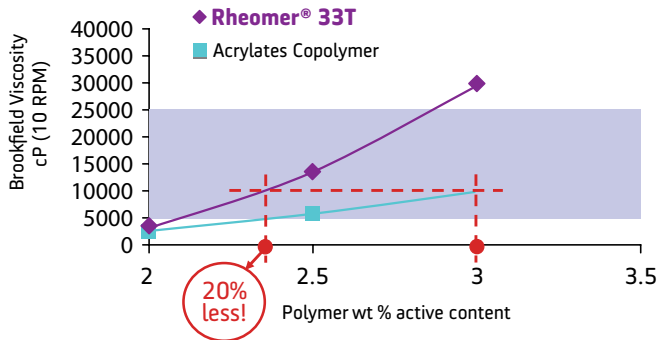
- ▶ [6 -13 wt %] if suspension properties are required*
- ▶ No limit if sole thickening properties are targeted

* We recommend to keep level of amphoteric surfactants at < 3wt% active

From viscous and clear solutions ...

High Viscosity

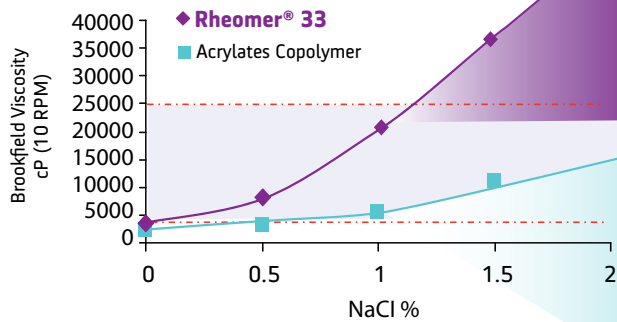
Rheomer® 33T allows for a significant reduction of thickener inclusion level in cleansing formulations



* In a 9 / 2 wt% active SLES /CAPB surfactant basis, pH 6.5, 0% NaCl

High Clarity

Rheomer® 33T displays synergistic thickening and high clarity in the presence of salt

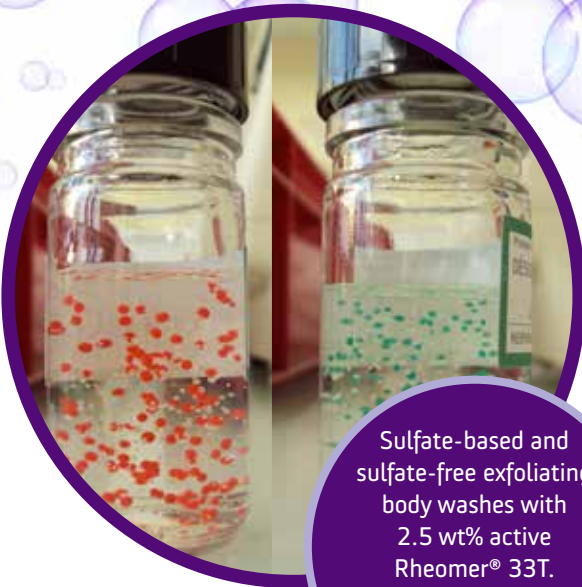


* In a 9 / 2 wt% active SLES /CAPB surfactant basis, pH 6.5 – 2.0 wt% active polymer



Polymer level necessary to reach ~ 10,000 mPa.s in a 9/2 wt% active SLES/CAPB surfactant basis - pH 6.5

% active Rheomer® 33T	~ 2.4 % (~8 % as supplied)
% active Acrylates copolymer	~ 3.0 % (~10 % as supplied)

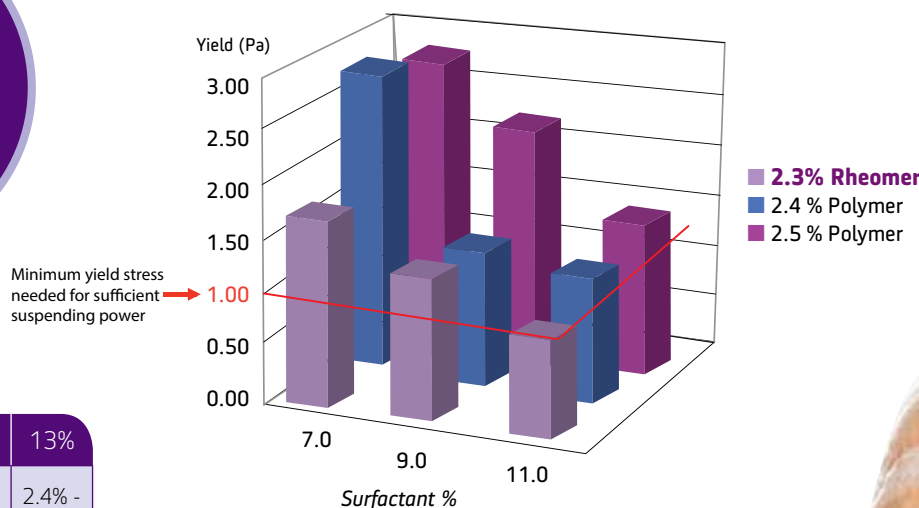


Sulfate-based and sulfate-free exfoliating body washes with 2.5 wt% active Rheomer® 33T. Formulations are stable after 3 months storage at 45°C

... to desired suspension

Tunable Suspension

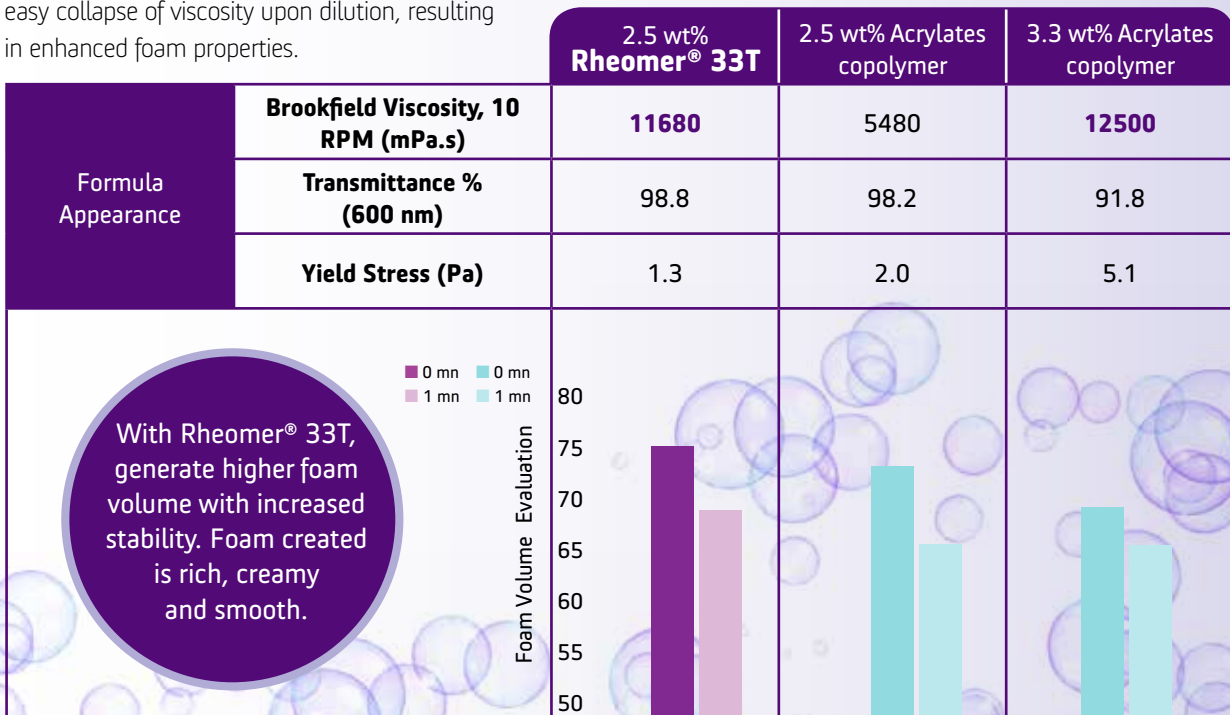
The yield point of a formulation is typically recognized as a measure of the ability of a composition to effectively suspend particles. Dispersed particles will remain suspended if the yield value is sufficient to overcome the effect of gravity or buoyancy on these particles. **With Rheomer® 33T, yield stress > 1 Pa which is typically sufficient to suspend most particles is very easily obtained. With Rheomer® 33T, the lower the surfactant content, the higher the yield stress.**



SLES/CAPB wt % active pH 6.5	7%	9%	11%	13%
Recommended polymer dosage to reach a yield stress >1Pa (wt% active)	2.0% - 2.3%	2.1% - 2.3%	2.3% - 2.5%	2.4% - 2.6%

From creamier foam ...

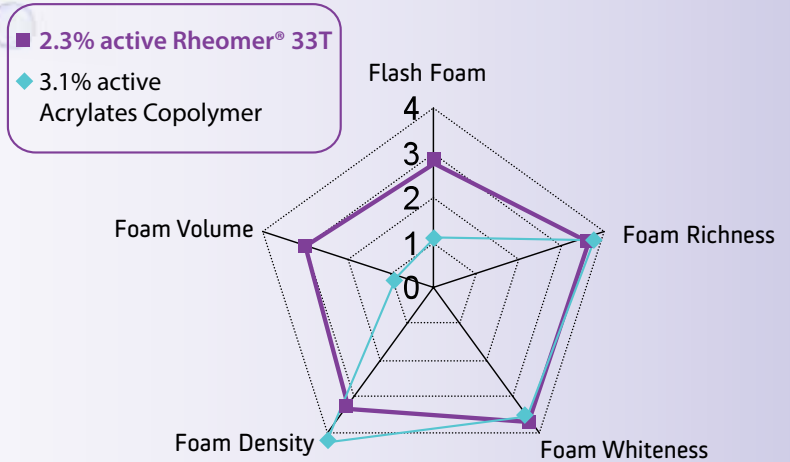
A rheological agent typically impacts a formula's appearance (texture) and experience. A high yield stress targeting actives suspension can be detrimental to the overall product experience (ease of extraction from dispenser device, flash-foam, ease of rinsing). **Rheomer® 33T** is designed to have a well-controlled balance between yield stress & thickening efficiency for easy collapse of viscosity upon dilution, resulting in enhanced foam properties.



SLES/CAPB: 9/2 – 0% NaCl
High Throughput Ross-Miles device – 10% dilution shower gel – water hardness 30°TH

... to enriched senses

● Achieve a well-balanced spectrum of foam attributes with Rheomer® 33T



Sensorial Assessment Hand-Wash –
Trained Panel with standardized protocol; notation scale [1 – 5]

Formula tested at iso-viscosity: 12500 – 15000 mPa.s (10RPM)
2.3 or 3.1 wt% active polymer in 5.6 / 3.4 / 2.0 wt % active SLES / SLS / CAPB



Rheomer® 33T

Express your creativity with Rheomer® 33T. Design formulations with innovative textures and enhanced sensorial properties.

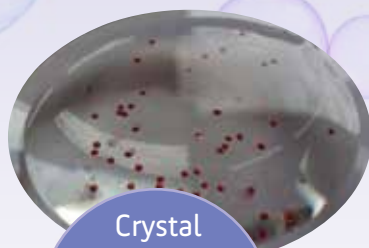


Rheomer® 33T

INCI Name: Polyacrylate-33

Appearance: Milky Liquid

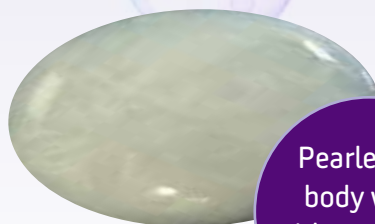
Solid Content: 27.5% to 30.5%



Crystal clear liquid hand-soap with emollient capsules



Vegetable oil moisturizing shower gel



Pearlescent body wash with suspended mica



Sulfate-free mild facial wash with exfoliating beads



Clear exfoliating body scrub



Crystal-Clear Exfoliating Body Wash

INGREDIENTS (INCI NAME)	FUNCTION	IN ACTIVE WT %
Rhodapex® ES-2K (Sodium Laureth Sulfate)	Surfactant	5.0
Rhodapon® SB-8208 S STD (Sodium Lauryl Sulfate)	Surfactant	3.0
Rheomer® 33T (Polyacrylate-33)	Rheological Agent	2.1
Sodium Hydroxide (15%)	Alkaline	q.s pH 6.5
Mirataine® BET-C30 (Cocamidopropylbetaine)	Surfactant	1.0
Glycerin	Humectant	1.0
Kathon® CG	Preservative	0.05
Metapearls® 1-STD green (polyethylene)	Exfoliating beads	q.s
Deionized Water		qs 100

Brookfield Viscosity: 3000-7000 mPa.s

pH: 6.5

Sulfate-Free Mild Facial Wash

INGREDIENTS (INCI NAME)	FUNCTION	IN ACTIVE WT %
Mirataine® CBS (Cocamidopropyl hydroxysultaine)	Surfactant	2.25
Mackanate® EL (Disodium Laureth Sulfosuccinate)	Surfactant	8.75
Rheomer® 33T (Polyacrylate-33)	Rheological Agent	2.7
Sodium Hydroxide (15%)	Alkaline	q.s pH 6.5
Mackamide® LAME-100 (Acetamide MEA, Lactamide MEA)	Surfactant	0.5
Glycerin	Humectant	0.5
Kathon® CG	Preservative	0.05
Florapearls® Jojoba Evergreen STD (Jojoba esters and Chromium Oxide Green)	Emollient capsules	q.s
Deionized Water		qs 100

Brookfield Viscosity: 4000-8000 mPa.s

pH: 6.5

Note: These products are produced at worldwide locations through the Novacare division of the Rhodia subsidiaries of the Solvay group.



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