HAIR CARE
IT'S ALL ABOUT VERSATILITY

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SH-001

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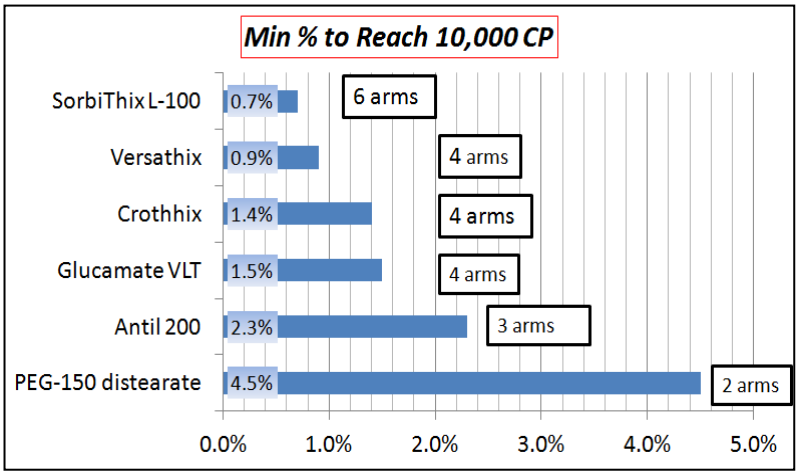
Sulfate Freedom! Clear Shampoos

Superior thickening efficacy over commercial thickeners in AOS system

Sulfate Freedom! Clear Shampoos are a brand new line of clear, richly textured shampoos showcasing **SorbiThix L-100**'s powerful multi-surfactant thickening ability. Three variations are offered: sodium lauryl sulfate (SLES), sodium olefi sulfonate (AOS), and sodium cocoyl glutamate (SCG).

SorbiThix L-100 can give you freedom to change up your shampoos, with or without sulfates in the formulations, when remaining the same clarity, foaming, or viscosity.



	INCI Name, (Trade Name)	SLES Wt%	AOS Wt%	SCG Wt %	Functions
1	Distilled Water	To 100	To 100	To 100	Liquid carrier
2	Disodium EDTA	0.10	0.10	0.10	Stabilizer
3	Guar Hydroxypropyltrimonium Chloride (Jaguar Excel)	0.10	0.10	0.10	Naturally derived hair conditioner
4	Glycerin	1.00	1.00	1.00	Humectant
5	Cocamidopropyl Betaine (35% active)	10.0	10.0	8.00	Amphoteric surfactant
6	Cocamidopropyl hydroxysultaine (ColaTeric CBS-HP) (50% active)			4.00	Amphoteric surfactant
7	Decyl glucoside		6.00		Non-ionic surfactant
8	SLES solution (70%)	14.0			Anionic surfactant
9	Sodium C14-16 Olefin Sulfonate (Bioterge AS-90 Bead)		8.00		Anionic surfactant
10	Sodium Cocoyl Glutamate (SCG) (Amisoft CS-11)			9.00	Anionic surfactant
11	NaCl	0.50			
12	Cocamide MEA	0.50	1.00		Hydrophobic thickener
13	Amodimethicone (and) C11-15 Pareth-7 (and) laureth-9 (and) Glyerin (and) Trideceth		1.00		Silicone hair conditioner
14	Aqua (and) Silicone Quaternium-18 (and) Trideceth-6 (and) Trideceth-12 (Silsoft Q PMF)			1.00	Silicone hair conditioner
15	**SorbiThix L-100**	**0.70**	**1.20**	**3.70**	**Non-ionic associate thickener**
16	**Perfume oil (Creative 8661)**	**0.50**	**0.50**	**0.50**	**Perfume**
17	Citric acid to pH 5.5	q.s.	q.s.	q.s.	
18	Symsave H + Euxyl 9010 (1:1 bend)	1.00	1.00	1.00	*Symsave H from Symrise, Inc.*

Feature: Viscosity at 22C, 10,000 cP. Clear shampoo with pleasant scent. pH 5.5

Process:

1). Add #1-2 and heat to 60C.
2) Pre-mix #3-4, and then add to vessel and mix.
3) Add # 5-15 while mixing at 60C until uniform.
4) Cool to 40C, and add # 16 - 18 while mixing

SORBITHIX L-100™

INCI: Sorbeth-230 Teteroleate (and) Decyl glucoside (and) Sorbitan Laurate.

- A patent-pending, user-friendly, **versatile** liquid non-ionic associative thickener with a unique six arm molecular structure. It is the best in its class of non-ionic associative thickeners for **thickening** every single surfactant system in the market, including the AOS and the very mild amino acid-based **glutamate surfactants.**
- Rich and pleasant flowing sensory, and **no negative impact on foaming**
- Easy-to-use in manufacturing and in formulation
- Synergy in thickening with salt and common hydrophobic thickeners
- Compatible with cationic, anionic, and non-ionic surfactants and polymers
- Mild and non-irritating to skin and eyes

Applications: All personal cleansing products - shampoo, body wash, foam bath, facial cleanser, hand cleanser, liquid soaps, detergent gel, etc.

Formulation and manufacturing tips:

- Suitable for pH 4.5 - 7
- 0.5 – 5 % dosage. Add at any stage of processing before temperature cools down below 35C, and mix until dissolved completely.
- **Rescuing Production Batches** - there are two specific methods for boosting viscosity in batches that fail to meet specifications:

Method 1:

A) Mix in a pail or drum the SorbiThix L-100 with a decyl glucoside APG surfactant at 1:1 ratio at 40-45 C for 10-20 minutes until solution is clear.

B) Add this blend into the tank and mix at 25 C and above. The actual mixing time required depends on the size of tank, mixing equipments, and the temperature. At 25 C, it may take about 30 minutes. At 30 -35 C, it takes much less time.

Method 2:

If you can warm the batch up to about 35C, you can add SorbiThix L-100 directly into the tank, and mix to the right viscosity. The amount of time it takes to dissolve the SorbiThix L-100 into the shampoo or shower gel depends on the tank geometry, size, and mixing equipments. That said, internal lab testing has shown that it can take as little as 5 minutes.

** dissolution rate depends greatly on temperature.