

Natural Quat-Free Conditioning Shampoo

#	Phase	Ingredient	INCI Name	Function	% by Weight
1	A	Deionised Water	Aqua	Diluent	q.s.
2	B	EDTA Disodium Dihydrate USP	EDTA Disodium Dihydrate	Chelating Agent	0.10
3	C	Zenerbet®	Octyldodecyl Dimer Dilinoleyl Alcohol/ Succinic Acid Copolymer	Film Former & Conditioning	1.00
4	C	Castor Oil USP	Ricinus Communis (Castor) Seed Oil	Solubilizing Agent	0.75
5	C	TI-GrnSurf® LCI	Water, Disodium laureth sulfosuccinate, cocobetaine, sodium cocoyl isethionate, sodium lauryl sufoacetate	1° Surfactant	51.6
6	C	TI-NatSurf® BW	Aqua, decyl glucoside, sodium myristoyl sarcosinate, cocoamidopropyl hydroxysultaine, sodium cocoyl amino acids (apples)	2° Surfactant	18.0
7	B	Solagum™ AX	Acacia Senegal Gum (and) Xanthan Gum	Rheology modifier	2.00
8	A	Sepinov™ EMT 10	Hydroxyethyl Acrylate/Sodium Acryloyldimethyl Taurate Copolymer	Emulsifier	1.00
9	C	Zenigloss®	Castor Isostearate Succinate	Natural Glossing Polymer	0.5
10	D	Green Apple Fragrance	Parfum	Fragrance**	q.s.
11	D	Phenoxyethanol	Phenoxyethanol	Preservative*	0.5
12	D	Color	Color	Colorant	q.s.
13		Sodium Hydroxide (50% Solution)	Sodium Hydroxide	pH Adjuster	q.s.
14		Citric Acid (25% Solution)	Citric Acid	pH Adjuster	q.s.

*The specific preservative to be used by the customer in any development of this formulation should be in line with local regulations and/or the customer's own policies.

**The use of and levels of a fragrance are purely optional and at the customer's discretion.

Procedure:

Phase A: Add 95% of the total water requirement (#1) into a suitable vessel. Under agitation slowly add #8. Continue to mix until completely incorporated.

Phase B: In a second separate vessel combine the remaining 5% water with #2. Mix until completely incorporated. Under continued agitation, slowly add #7.

Phase C: In a third separate vessel, solubilize #3 into #4, and heat to 50 C. Add #6 and mix until homogeneous. Add #5 and mix until homogeneous. Begin heating to 75°C with slow to moderate agitation. When at 75°C, incorporate Phase-B, and mix until homogeneous. Now under agitation and maintain 75°C, incorporate Phase-C into Phase-A. When homogeneous add #9. When #9 is fully incorporated discontinue heat.

Phase D: Cool to 40°C with continued slow agitation. When at 40°C, then add #10, #11 & #12 and mix until uniform. Check product specifications and adjust accordingly ‡. Continue to cool to 23°C.



Formula Courtesy of

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