

Conditioning Agent

Activsoft C-13

INCI Name: Guar Hydroxypropyltrimonium Chloride

CAS No.: 65497-29-2 EINECS No.: Exempt Polymer

Activsoft C-13 is a naturally derived cationic polymer that is commonly used as a conditioning agent in shampoos, cream rinse conditioners, shower gels, body washes, and skin cleanser formulas.

Derived from the guar bean, the backbone of the polymer is a Mannose-Galactose Polysaccharide that has been quaternized to enhance substantivity to hair and skin.

Typically used in formulations at 0.10% to 0.50% concentration levels, Activsoft C-13 is completely compatible with most common anionic, cationic and amphoteric surfactants and is ideally suited for use in two-in-one conditioning shampoos and moisturizing skin cleansing products. When used in personal cleansing formulations, Activsoft C-13 imparts a soft, elegant after-feel to the skin and also enhances wet comb and dry comb properties to shampoos and hair conditioning systems. Unlike Activsoft C-14 and Activsoft C-17, Activsoft C-13 is self hydrating in water and does not require acidification during use. Other performance benefits of Activsoft C-13 are identified below.

Activsoft C-13 is naturally derived from the guar bean plant.

Applications

- Two-in-one shampoos
- Cream rinse conditioners
- Styling gels and mousses
- Facial cleansers
- Shower gels and body washes
- Liquid hand soaps
- Bar soaps and syndet bars

Performance Properties

- Enhanced ease of wet hair combing
- Enhanced ease of dry hair combing
- Improved hair manageability
- Improved foam quality, stability and texture
- Increase active delivery of silicone from personal cleansing formulations
- Impart soft, elegant after-feel to the skin

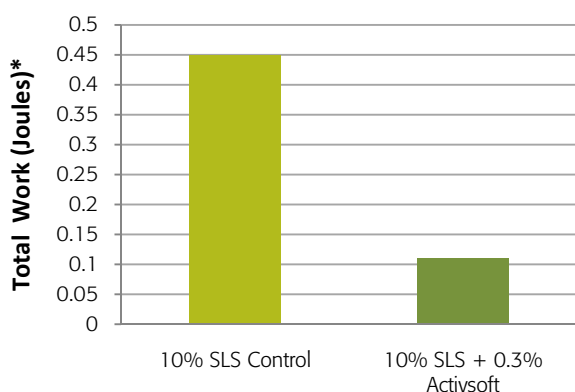


TYPICAL PROPERTIES

Not intended for use in preparing specifications

Appearance	Yellow, Free Flowing Powder
Odor	Slight Amine
Particle Size Thru 100 Mesh:	100%
Particle Size: Thru 200 Mesh:	80%
% Moisture	6.0 – 10.0
pH (1% Aqueous):	5.5 – 7.5
% Nitrogen (Extracted)	1.2 – 1.6
Viscosity (cps), 2 Hours	3,000 – 4,000
Plate Count, cfu/g:	50 max (<10 typical) tentative
Mold, cfu/g	50 max (<10 typical) tentative
Yeast, cfu/g	50 max (<10 typical) tentative

Activsoft C13 Wet Combing



Activsoft C-13

* Differences are statistically significant at $p < 0.01$ (two-tailed test)

Recommended Use Directions for Aqueous dispersions/solutions

With rapid but smooth agitation, slowly sift Activsoft C-13 powder into room temperature water. Mix vigorously for 15 – 20 minutes. The system will thicken as it hydrates in the water. The resulting system will appear slightly hazy when used at typical formulation use levels (0.1 - 0.5%).

Pearlescent conditioning shampoo AC007 featuring Activsoft C-13

	INCI Ingredients	Trade Name (Supplier)	% w/w
A	Trisodiummethylenediamine Disuccinate	Natrlquest E30 (Innospec)	0.10
	Deionized water		48.60
B	Guar Hydroxypropyltrimonium Chloride	Activsoft C-13(Innospec)	0.30
C	Sodium Lauryl Sulfate (30% soln)	Calfoam SLS-30 (Pilot)	30.00
	Cocamidopropyl Betaine (35% soln)	Mirataine BET C-30 (Rhodia)	12.00
D	Cocamide MEA	Cocamide MEA (Cedar)	5.00
E	Ethylene Glycol Monostearate	EGDS (Cedar)	2.00
F	DMDM Hydantoin		0.50
G	50% Citric acid		Adjust pH 5.5 – 6.0
H	Sodium Chloride		1.00 – 1.50
I	Deionized water		Q.S. to 100

Preparation Procedure

1. Dissolve Natrlquest E30 in deionized water.
2. With smooth mechanical agitation, slowly bend Activsoft C-13 into system. Mix unit completely dispersed.
3. Blend in Sodium Lauryl Sulfate and Cocamidopropyl Betaine and mix until uniform. Warm system to ~50°C.
4. Blend in Cocamide MEA. Warm to 70°C.
5. Blend in Ethylene Glycol Monostearate and mix until uniform.
6. Cool with mixing. When temperature reaches 30 - 35°C, add DMDM Hydantoin and mix until uniform.
7. Adjust pH of system to 5.5 – 6.0.
8. Cool to room temperature and add Sodium Chloride incrementally as needed to achieve viscosity of 3,000 – 5,000 cps.
9. Q.S. system to 100% with deionised water as needed.

Properties

Appearance	Pearlescent solution
pH	5.5 - 6.0
Viscosity*	3,000 - 5,000 cps
Stability	Passed 1 month at 45°C, 3 cycles freeze/thaw

* Brookfield DV-E @ 10 rpm, 25°C, #3 spindle

Conditioning Lotion AC106 featuring Activsoft C-13

	INCI Ingredients	Tradename (Supplier)	% w/w
A	Water		q.s
	Trisodium Ethylenediamine Disuccinate	Natrlquest E30 (Innospec)	0.14
B	Guar Hydroxypropyltrimonium Chloride	Activsoft C-13 (Innospec)	0.35
C	Glycerin	Glycerine (Rita Corporation)	3.75
D	Xanthan Gum	Xanthan Gum CG-SFT (CP Kelco)	0.25
E	Hydroxypropyl Starch Phosphate	Structure XL (National Starch)	1.50
	Steareth-21	Brij 721 (Uniqema)	3.50
	Steareth-2	Brij 72 (Uniqema)	2.50
	Polyglyceryl-3 Methylglucose Distearate	Tegocare 450 (Degussa)	2.00
	Glyceryl Stearate and Laureth-23	Cerasynt 945 (ISP)	2.00
	C12-15 Alkyl Benzoate (and) Dipropylene Glycol Dibenzoate (and) PPG-15 Stearyl Ether Benzoate	Finsolv® TPP (Innospec)	4.75
	Dimethicone PEG/PPG-20/23 Benzoate	Finsolv® SLB-101 (Innospec)	3.00
	Ethylhexyl Benzoate	Finsolv® EB (Innospec)	2.75
	Dimethicone	DC 200-100cps (Dow Corning)	2.00
	Phenyl Trimethicone	DC 556 Cosmetic Grade (Dow Corning)	3.75
F	Tocopherol	Vitamin E (DMS Nutritional)	0.10
G	Preservative		q.s.
H	Methyl Gluceth-20 Benzoate	Finsolv® EMG-20 (Innospec)	2.00
	Fragrance	PF 55143 White Tea (Phoenix Fragrance)	0.10

Preparation Procedure

1. Start to heat to 75-80°C and add and mix ingredients of phase A in deionized water.
2. Sprinkle and mix ingredient B.
3. Add and mix blend of phase C into the water phase at 75°C.
4. Sprinkle and mix ingredient D.
5. Melt to 75-80°C the oil phase (Ingredients of phase E) and add and mix to the water phase.
6. Homogenize for 2 minutes at 3500 rpm until smooth and glossy.
7. Start to cool down and add and mix ingredients F and G and blend H, one at a time below 50°C.
8. Continue to mix until below 25°C.

Properties

Appearance	White lotion
pH	6.0-6.7
Viscosity*	2,000 - 5,000 cps
Stability	Passed 1 month at 45°C

* Brookfield DV-E @20rpm, 25°C, #4 spindle

For further information, please email your region:

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