



Poly Suga®Glycinate

Naturally-Derived Poly APG Amphoteric

INCI NAME C: Sodium Bis-Hydroxyethylglycinate Coco-Glucosides Crosspolymer
L: Sodium Bis-Hydroxyethylglycinate Lauryl-Glucosides Crosspolymer
LISTINGS REACH (EU), TSCA (USA)

Poly Suga®Glycinates are naturally-derived amphoteric starting from alkylpolyglucoside. These renewable resources are fully biodegradable and very safe for personal care cleansing and foaming products.

Poly Suga®Glycinate is a great replacement for betaines, amphotoacetates and amphopropionates used in personal care products. Poly Suga®Glycinate offers significant mildness with no eye and skin irritation and considerably lower irritation scores than traditional cocamidopropyl betaines. Combined with anionics, Poly Suga®Glycinate may be used to reduce the irritation of other surfactants. It has a very mild odor and will not add color to formulations. The resulting foam is dense with great stability when used in combination with other surfactants and suitable for use in shaving creams, mousses and other high-foaming products.

In shampoo formulations, Poly Suga®Glycinate produces conditioning and imparts softness to the hair. A combination of Poly Suga®Glycinate with a cationic polymer produces better conditioning compared to the cationic polymer used alone. Use in hair care can be at any pH range and is very substantial to both hair and skin.

BENEFITS

- Made from naturally-derived ingredients
- High foaming
- EO-free, 1,4-Dioxane-free, PEG-free
- MEA-free, DEA-free, Sulfate-free
- Non-irritating
- No amidopropyl group
- Excellent formulation label copy
- Exceptional mildness for an amphoteric
- Surface active properties over broad pH range
- Compatible in acid and alkaline formulations
- Excellent after-feel on skin

APPLICATIONS

- Shampoos
- Creams & Lotions
- Shaving Products
- Bubble Bath
- Aerosol Mousse Conditioner
- Shower Gels
- Liquid Hand Soaps

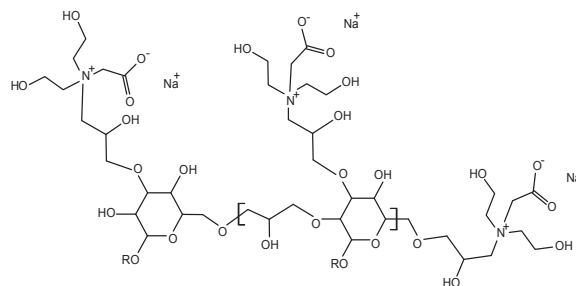


TYPICAL PROPERTIES / STRUCTURE

	C	L
Appearance	Clear Amber Liquid	
pH, 10% aq.	5 – 6	5 – 6
Solids, %	40	40
Color, Gardner	1	2

Ross-Miles Foam Height (1% active), mm

Immediate	180	135
1 minute	165	115
5 minutes	160	110
Draves Wetting (1% active), seconds	3.3	5.7



EYE IRRITATION

Poly Suga®Glycinate is much less irritating than cocamidopropyl betaine, scoring a non-irritating **1.75** in the eye irritation test vs. the cocamidopropyl betaine score of 18.5, which is very irritating. These tests were run at 4% active surfactant.

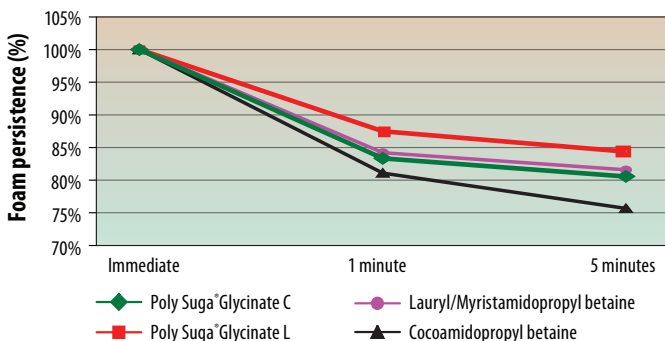
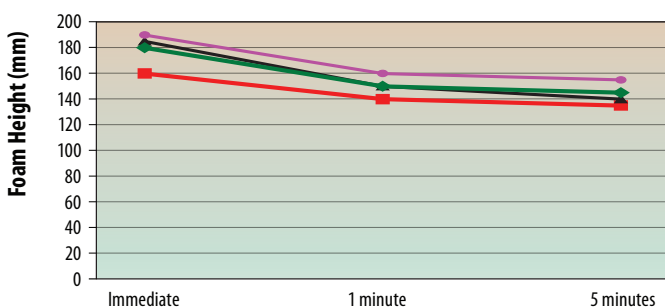
Poly Suga®Glycinate L used in combination with harsh anionic surfactants lowers irritation more than using cocamidopropyl betaine.

ACUTE SKIN IRRITATION

In a 48-hour occlusive skin patch test on 53 human test subjects, all reported **no visible skin reaction** and scored Poly Suga®Glycinate L at **zero** for dermal irritation potential.

ROSS-MEYERS FOAM TESTING

Foam persistence test (lower) is performed on a conventional shampoo formulation.



STARTING FORMULATIONS

Hand Soap Formulation

INGREDIENT	%
1 Water	qs to 100.00
2 Poly Suga®Glycinate L	20.00
3 Suga®Nate 160NC	15.00
4 Sodium Methyl Cocoyl Taurate	10.00
5 Sodium Lauryl Sarcosinate	5.00
6 Cola®Lipid SAFL	5.00
7 Fragrance, Dye, Preservative	qs

Procedure:

Blend ingredients in order given with sufficient stirring to ensure uniformity. Mild heat will reduce mixing time. Add fragrance and preservatives as needed.

Appearance: Clear viscous liquid

Viscosity: 3400 cps.

pH (10% aq.): Adjust to 6.0 - 6.5

Activity: 21.6%

Kid's Shampoo Formulation

INGREDIENT	%
1 Water	qs to 100.00
2 Suga®Nate 160NC	19.00
3 Cola®Teric COAB	6.00
4 Poly Suga®Glycinate C	3.00
5 Pureact WS Conc • <i>Innospec</i>	7.00
6 Cola®Lipid C	2.00
7 Capmul® S18L • <i>Abitech Corp</i>	0.50
8 Fragrance (Blueberry)	0.05
9 Preservative	0.04

Procedure:

Combine ingredients 1-4. Heat to 50°C. Add remaining ingredients in order.

Appearance: Clear viscous liquid


Viscosity: 4000 cps.

pH (10% aq.): Adjust to 6.5

STORAGE / HANDLING

It is recommended that Poly Suga®Glycinate be stored in sealed containers at temperatures not exceeding 120°F (49°C). Poly Suga®Glycinate is shipped in 55 gallon open-head poly drums (net weight 450 lb/204 kg). Typical shelf life is 12 months from date of manufacture. Safety Data Sheets may be found at www.colonialchem.com.

ADDITIONAL LISTINGS

 USDA Biopreferred Product

GREENSTAR™ RATINGS

Poly Suga®Glycinate C **7.56**

Poly Suga®Glycinate L **7.66**



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Natural Surfactants



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