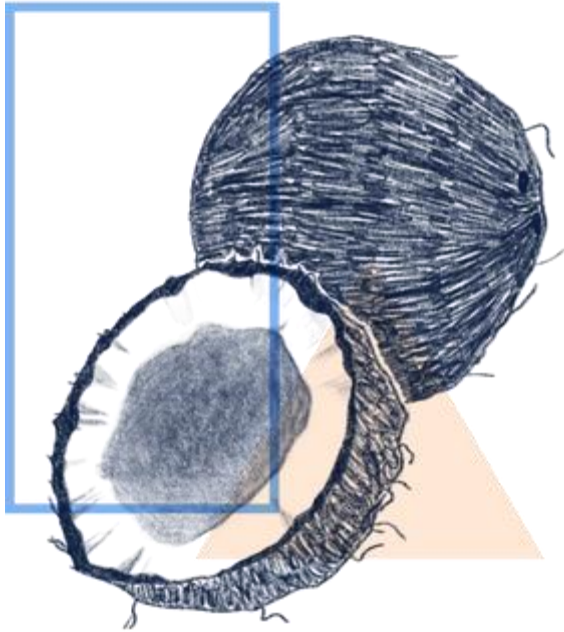


Sodium Cocoyl Glutamate



TLDR

- **Sodium Cocoyl Glutamate** is a barrier friendly surfactant that cleanses the skin really well while leaving it super moist and supple.
- It can soften water by binding to minerals
- It is one of the mildest surfactants and it is bio-compatible

Regimen's Take

We combined this with Sodium Cocoyl Glycinate and Cocamidopropyl Hydroxysultaine to produce a surfactant system that is heavy duty, has an excellent foam profile, without solubilizing barrier lipids. Although these surfactants seem to be gentle, it is important to have other ingredients that would lessen the penetration of surfactants. Look for glycerin high up in the ingredient list to ensure that there is minimal damage to the skin.

SODIUM COCOYL GLUTAMATE

What is Sodium Cocoyl Glutamate?

It is an amino acid-based surfactant that belongs to the acylglutamate group which is known to be **one of the mildest and moisturizing groups of surfactants.**

What are its Benefits?

- Reduce the absorption of other surfactants like Sodium Lauryl Ether Sulfates
- Soften hard water by removing minerals
- Carboxyl groups in the surfactant **support the low pH of the skin**
- **Degraded by enzymes (Oxidizing enzymes) in the skin into Glutamic Acid and Fatty Acids**
- Optimized proprietary blend with Sodium Cocoyl Glycinate and Cocamidopropyl Hydroxysultaine selectively solubilizes Squalene without solubilizing Intercellular Lipids

One of the common problems of surfactants is their potential to disrupt the organization of the intercellular

cement lipids in the stratum corneum (i.e. ceramides, cholesterol, and fatty acids). Even the supposedly

mildest Decyl Glucoside (Almost non-existent irritation in Zein Protein Dissolution, RBC test, Acute Eye

Irritation Assay, HET-CAM)^[1] were shown to solubilize Cholesterol and Fatty acids.^[2] **Acylglutamates are**

considered non-delipidants, as cholesterol and other intercellular cement lipids are not soluble in

them. To test this, 5% of Sodium Cocoyl Glutamate was compared with 5% Cocamidopropyl Betaine,

Sodium Lauryl Sulfate, Sodium Laureth Sulfate, and 5% of the proprietary blend. Sodium Cocoyl Glutamate,

and the proprietary blend resulted in the least amount of solubilized intercellular lipids.^[3] This result is

consistent with previous studies done to measure the amount of lipids extracted by surfactants. The results

showed that acylglutamates have sufficient detergency to extract squalane but not barrier lipids such as

cholesterol. In the same study, keratinocyte cytotoxicity was assessed and acylglutamates were superior in

mildness with NR50 of 306 compared to 36 for acylmethyl taurate, 16.8 for sodium cocoyl isethionate, 9.9 for soap and 4.1 for SLS.^[4] In addition, the SC orderliness was also assessed by in-vitro ESR spin probe method showing that acylglutamates have an order parameter (S) of 0.73 compared to SLS 0.47, soap 0.65, water 0.89 (S=1 representing control).^[5] Another study showed that **acylglutamates strip off NMF at negligible amounts compared to soap or other anionic surfactants.**^[6] In congruence with the past studies, mobility and orientation of the intercellular lipids were tested and correlated with TEWL which gave further credence to the mildness of Sodium Cocoyl Glutamate.^[7]

How does it compare to other surfactants?

Although SCG is proven to be milder than most surfactants, entry to the skin is still possible. Hence, it is beneficial to use surfactants that degrade upon entry into the stratum corneum. Even though they are great non-delipidants, we believe that they would still have little to some disrupting effect on the stratum corneum lipids as they are still considered anionic surfactants. Thankfully, specialized organelles called Odland bodies that results from keratinization are extruded in the extracellular space for various functions including lipid processing. These organelles contain enzymes that are able to process Sodium Cocoyl Glutamate into Glutamic acid and various chain fatty acids. Glutamic acid resulting from the cleavage would serve as a base into the formation of various Natural Moisturizing Factors such as PCA.

Compared to Sodium lauroyl glutamate, Sodium Cocoyl Glutamate is less irritating to the skin. Lauroyl is a C12 straight-chain similar to Cocoyl. The difference is that, although the major component of cocoyl is C12 (40%), the remaining components are actually longer alkyl chains. It is known that longer alkyl groups,

particularly those that are branched or contain aromatic groups penetrate less compared to shorter alkyl groups.^[8]

Glutamate based surfactants are also considered to be more bio-compatible as the major component of the stratum corneum is keratin, which is composed of alternating acidic and basic residues forming alpha-helical rods. This supports the observation that, although glutamates penetrate further into the skin compared to glycines, their penetration results in less disruption of the keratin structures.^[9]

In theory, this makes sense, but as to whether enough Sodium Cocoyl Glutamate is processed by Odland bodies in the stratum corneum is yet to be elucidated. Although its irritation potential and selective solubilization, and the ability to disrupt the organized structure of intercellular layers have been tested, further studies involving in-vivo visualization of SC after SCG cleansing should be performed. One drawback of acylglutamate is the cost as it is deemed impractical due to cost.

References:

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 2. Ananthapadmanabhan, K. P., Subramanyan, K., & Rattinger, G. B. (2002). Moisturizing cleansers. *COSMETIC SCIENCE AND TECHNOLOGY SERIES*, 405–432. ↩
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8. Okasaka, M., Kubota, K., Yamasaki, E., Yang, J., & Takata, S. (2019). Evaluation of anionic surfactants effects on the skin barrier function based on skin permeability. *Pharmaceutical Development and Technology*, 24(1), 99–104. ↩
9. Fuchs, E. (1995). Keratins and the skin. *Annual Review of Cell and Developmental Biology*, 11, 123–153. ↩

Potassium Cocoyl Glycinate is a new generation of green surfactant synthesized from natural coconut oleic acid and glycine (the main ingredient of human skin collagen). Potassium Cocoyl Glycinate is very mild. The foam is rich and delicate, and has the function of stabilizing bubbles.

Potassium Cocoyl Glycinate. It is commonly used It is a Biodegradable Key benefits in use include: Cleansing, Cooling effect, Creamy texture, Foam enhancement, Foam quality, Mildness, Refreshing and Rich feel.

INCI Name: Potassium Cocoyl Glycinate

Function: Foaming Agent, Cleansing Agent, Surfactant (Anionic), Surfactant

Labeling Claims: Clean at Sephora, Biodegradable

Active Content: 23.0 - 35.0 %

Sodium Lauroamphoacetate is an amphoteric organic compound.

Sodium lauroamphoacetate

Learn all about sodium lauroamphoacetate, including how it's made, and why Puracy uses sodium lauroamphoacetate in our products.

Sodium lauryl glucose carboxylateReadingSodium lauroamphoacetate2 minutesSodium cocoamphoacetate

Mar 30, 2020

Share

- Derived from: coconut
- Pronunciation: (\ 'sŌ-dĒ-Θm\ \ 'läv-rŌ-'am(p)-fŌ-'a-sΘ-,tātl)
- Type: Naturally-derived

What Is Sodium lauroamphoacetate?

Sodium lauroamphoacetate is a yellow substance derived from coconut.^[1] Coconuts grow on the *cocos nucifera*, or coconut palm tree, around the world in lowland tropical and subtropical areas where annual precipitation is low.^[2,3] Widely cultivated, healthy coconut palms produce 50 nuts per year, and the tree can be used to produce everything from food and drink to fibers, building materials, and natural ingredients.^[4,5]

What Does Sodium lauroamphoacetate Do in Our products?

Sodium lauroamphoacetate is a surfactant that allows water, oil and dirt to mix, allowing things to become clean. It is also a foam booster and conditioning agent.^[6] It can be found in personal care products such as hair conditioner, body wash, shampoo, facial cleanser, foaming cleansing products, and other items.^[7,8]

Why Puracy Uses Sodium lauroamphoacetate

We use sodium lauroamphoacetate as a surfactant and cleanser. It is amphoteric, which means it can function both as a base and an acid.^[10] Research shows the ingredient is typically not a skin irritant or sensitizer.^[11,12]

How Sodium lauroamphoacetate Is Made

Sodium lauroamphoacetate is made by reacting aminoethylethanolamine with fatty acyl compounds. Lauric acid is one of its starting materials, which is derived from the distillation of coconut fatty acids found in coconut oil. Aminoethylethanolamine and chloroacetic acid are two other components; they come from ethylene gas and chlorine gas, respectively.^[9]

Common concerns

See how this product scores for common concerns.

- LOW

Cancer

- LOW

Allergies & Immunotoxicity

- LOW

Developmental and Reproductive Toxicity

- LOW

Use Restrictions

Sources

[1] Cosmeticsandtoiletries.com

[2] Pennsylvania State University

[3] Cosmeticsinfo.org

[4] University of Hawaii at Manoa College of Tropical Agriculture & Human Resources

[5] U.S. National Plant Germplasm System

[6] Cosmeticsandtoiletries.com

[7] European Commission

[8] Environmental Working Group

[9] Cosmeticsandtoiletries.com

[10] Environmental Working Group

[11] [Foti, C. et al., "Aminoethylethanolamine: a new allergen in cosmetics?" *Contact Dermatitis* \(2001\) Sep;45\(3\):129-33](http://Foti, C. et al.,)

[12] [A. Mehling, M. Kleber and H. Hensen, "Comparative studies on the ocular and dermal irritation potential of surfactants," *Food Chemistry and Technology* 45\(5\) 747-758 \(2007\)](http://A. Mehling, M. Kleber and H. Hensen,)

Di Sodium cocoyl glutamate is a vegetable surfactant derived from coconut or palm kernel oil and corn glucose. It is a mild cleanser and surfactant which is used as a foaming agent in shampoos, shaving foam, toothpaste, and other skincare products. It is extremely beneficial for people having sensitive skin and mild skin issues.

INCI Name- Di Sodium Cocoyl Glutamate

Molecular Formulae- C₅H₈NNaO₄

Alternative Names- L-Glutamic acid, Monosodium salt

Country of Origin- India

BENEFITS AND APPLICATIONS-

- Our sodium cocoyl glutamate is highly effective, keeping in mind it is gentle and mild to the skin.

- It is an excellent cleanser and foam booster that will increase the effectiveness and texture of your DIY formulation.
- It will give your formulation a rich and creamy form and will make the bubbles thick and fluffy.
- Being a natural and organic product, it works extremely well for people with pH-sensitive skin.
- It is a good alternative to sulfate products, hence making your formulation sulfate-free.
- It works well with hard water.
- It can be incorporated into your solid or cream products without heating the solution.

HOW IT WORKS-

- It works by removing the dirt and impurities mixed with oils in your skin and hair.
- It works by allowing the mixing of these oils and water, which can now be easily rinsed away, hence cleansing the desired area.

CONCENTRATION AND SOLUBILITY-

- It is recommended that it should be used at a concentration of 30% for best results.
- It is soluble in water and alcohols and insoluble in volatile oils.

HOW TO USE-

- Mix our sodium cocoyl glutamate with water in the recommended concentration and stir until a homogeneous mixture is created.
- Add other surfactant and enhancing ingredients like essential oils, depending on your product and need, and mix properly.
- Add this mixture to the warm base of the product and stir until the desired thickness and texture are obtained.