

## COCO GLUCOSIDE

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### What is it?

Coco Glucoside is one of the mildest, non-ionic surfactants that can be used as a foaming, cleansing, conditioning, and thickening agent to liquid cleansers and shampoos. (A non-ionic surfactant is a material that can greatly reduce the surface tension of water when used in very low concentrations) It is a favourite amongst manufacturers as it is derived from natural raw materials such as coconut oil and cornand fruit sugars, and is completely biodegradable. It contains no parabens or SLS.

### Applications:

It can be used in manufacturing a variety of cosmetic and skin-care products such as shampoos, conditioners, body washes, cleansers, hand soaps, body scrubs, acne treatments, facial moisturizers, hair dyes and baby products. It is also compatible with all skin types and is gentle on the skin and hair. In shampoos and body washes, use 5% - 50%; for facial cleansers or baby washes: 2% - 25%.

### Advantages:

This yellow to golden yellow, cloudy and viscous liquid, increases the foaming capacity in skincare and hair care products. It also exhibits excellent cleansing characteristics on the skin and hair and is gentle on the skin too.

### Recipe:

'My Little Things' Lingerie Wash

<i>Metric</i>	<i>Ingredients</i>	<i>Imperial</i>
200 ml	Liquid Castile Soap Base	6 oz.
100 ml	Coco Glucoside	3 oz.
5 ml	Glycerine	1 t.

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1.25 ml	GSE (Grapefruit Seed Extract)	¼ t.
2.5 ml	Juniper Berry Essential	1/2 t.
2.5 ml	Litsea Cubeba Essential Oil	½ t.
2.5 ml	Sweet Basil Essential Oil	½ t.

Mix the above ingredients together, adding the water only at the very end, and very slowly, to thin your product to your preferred consistency.

*Tip: Put this in a small travel bottle for rinsing out your 'little things' at the end of the day...and in a pinch, you have a shampoo and body wash as well!*

#### Lab Notes:

*Here are some UP (unpreserved) APG products processing hints:*

*Magnesium Oxide is used as a peroxide stabilizer in the bleaching step of the APG Surfactant manufacturing process. Unbleached APG Surfactants have a dark brown color. Coco Glucoside, UP products are supplied at pH 11.5 - 12.5 and contain 300-500ppm Magnesium Hydroxide which is not water soluble, hence the hazy appearance. If you add the Coco Glucoside, UP product to water, you just transfer the haze. You must first reduce the pH of the Coco Glucoside, UP solution (not the concentrated product as supplied) to 7-8 with any acid. This converts  $Mg(OH)_2$  to a soluble  $Mg^{++}$  salt and the solution will clear at pH 7-8. Once this "dehazing step" is done, you can add the remaining ingredients and the product should remain clear. (Factor is 0.9% Citric acid by wt. Coco Glucoside, UP. For example 100 lbs. of APG would require 0.9 lbs. of anhydrous citric acid to adjust pH to 8)*

*Since Coco Glucoside, UP products contain a small amount of carbonate there will be a release of  $CO_2$  on neutralization which may lead to foam generation. However this can be avoided simply by diluting the Coco Glucoside, UP product into the batch prior to neutralizing. For most applications the order of addition of Coco Glucoside, UP products will not be a concern. However there are cases where the order of addition will be important. For instance when using rheology modifying polymers (i.e. Xanthan Gum to suspend beads, abrasives, etc.) it is recommended to allow all air bubbles to escape before combining the surfactant and polymer phases in order to prevent air entrainment. In this case the neutralization step should be done before combining the phases. Also we do not recommend adding concentrated acids directly to undiluted Coco*

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*Glucoside, UP Products since that will lead to foam generation and expansion of volume of the product due to air entrainment.*

**Interesting fact:** When it comes to shampooing, we all think a good lather is necessary for a clean head of hair. Research has shown that the foaming component of shampoos is what hair care companies call a 'cosmetic feel'. Though it adds to the experience, a good lather isn't actually essential for cleaning – it's more that we miss the suds when they're not there. Coco Glucoside is relatively high forming. So although it is not as quite sudsy as the mainstream products, you won't be left unsatisfied

*Corn sugar is an ingredient of this material, and should not be used by people with corn allergies. All New Directions Aromatics (NDA) products are for external use only. Please read and understand the appropriate technical information, material safety data sheets, and disclaimers before using any NDA product.*

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