Golden Lavender



Handcrafted Vegan Soap



Long-lasting lavender soap that moisturizes skin.

lt's Vegan!

Promoting an environmentally-friendly alternative

A Brief History of Soapmaking

Egypt, 4th Century BC

England, 13th Century

Egyptians made ointments in their own homes from alkalis, various animal fats, and different kinds of vegetable oils.

Soap was made in batches in huge, 4000-pound, barrels. Tree ashes were often used, which led to severe deforestation in woodland regions across England and France from which many of the ashes were imported. Origin of scented soap. Normal soap was grated into a powder and added to scented water, then allowed to cool and solidify into a scented soap.

Italy, 16th

Century

The word soap itself comes from the Gaulish language, originating from the word seyp, meaning "to pour out," thought to come from the way the soap was made.

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Modern Market

The global handmade soap market alone was valued at 150 million USD by revenue with bath soap representing a multibillion industry (Value Market Research, 2017).

While the main function of soap is to clean, when consumers are choosing to buy soap, they tend to gravitate towards the added properties of the soap. Dove, a brand of soap, is known for its moisturizing properties, therefore, leading them to be one of the most popular soap brands. For bar soap specifically, statistics show that bar soap has a 3% increase in sales from 2018 to 2019, growing faster than liquid soap. One of the main reasons is believed to be the promotion of using more eco-friendly products where the packaging and the formula for liquid soap evidently generates a 25% more carbon footprint than bar soap.

Chemical Process

Soap is made as the product of a chemical process called saponification. Saponification occurs when triglycerides react with lye (potassium hydroxide or sodium hydroxide) to form glycerol and fatty acids. The fats and oils used as reactants when making soap are composed of triglycerides, and a triglyceride is composed of glycerol attached to three fatty acids by ester linkages. When triglycerides react with lye (in our case, NaOH) an alkaline hydrolysis reaction occurs.



Function of Soap

- The negatively charged, polar carboxylate group at the head makes soap hydrophilic.
- The hydrophilic part of the soap molecule readily bonds with a water molecule.
- The fatty acid in the soap gives a long hydrocarbon tail, which creates London dispersion forces. These forces attract the tails to one another creating a cluster called a micelle.
- The carboxylate groups form an outer negatively charged spherical surface with the hydrocarbon chains facing the center of the sphere.
- The oil molecules (nonpolar) along with the dirt attached to them get caught inside the micelle.
- Since the micelles are soluble in water and are negatively charged, they repel each other and disperse in water allowing the dirt to be rinsed away.

Hydrophilic head Aqueous solution

Hydrophobic tail

Design: Acid Compositions

The acids making up an oil contribute to different properties in the soap. For example, lauric and myristic acid are usually found in the same oil, and contribute to hardness, cleansing, and bubbly lather. Too much of these acids can strip the skin of its natural oils and can feel drying. On the other hand, linoleic acid must not exceed 15% to avoid DOS (Dreaded Orange Spots). DOS makes the soap visually unappealing and will develop a disagreeable odor. To avoid these problems, experiences of soap-makers were taken into account to ensure the making of a functionable soap.

	Lauric	Myristic	Palmitic	Stearic	Oleic	Linolenic	Linoleic	Ricinoleic
Average	7-20%	4-7%	10-20%	3-8%	32-41%	0-1%	7-14%	4-7%

Results of a survey asking 100 soapmakers what percentages of acids they use in their recipes

Method: Oil Measurements

- 1. Measure the oils on a mass balance
- 2. Melt coconut oil
- 3. Pour all 4 oils into a heating pot
- 4. Heat up the oil with a low temperature to 100 degrees fahrenheit or 38 degrees celsius
- 5. Add dye and essential oil into the oil mixture



Method: Lye

- 1. In a different heating pot, pour in distilled water
- 2. In a well-ventilated area, slowly, to prevent splashing, pour in the lye (NaOH)
- 3. After the lye has completely dissolved in water, situated the pot in a cool water bath until it reaches a similar temperature as the oils

Method: Molding the Mixture

- 1. Pour lye into the oil mixture slowly
- 2. Stir the mixture, ideally with a stick blender
- 3. Pour into mold and let it sit for 12 hours
- 4. Take soap out of mold
- 5. Cure for 2-3 weeks



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