**Glycerine (glycerin, glycerol)**

What is it and how is it produced/sourced:

Glycerin is a sugar alcohol derived from animal products, plants or petroleum. Vegetable glycerin is made by heating triglyceride-rich vegetable fats — such as palm, soy and coconut oils — under pressure, using heat, and/or together with a strong alkali, such as lye, which causes the glycerin to split away from the fatty acids and mix together with water, forming an odorless, sweet-tasting, syrup-like liquid[[1]](#footnote-1). With necessary precaution you can make glycerine yourself[[2]](#footnote-2).

**Acts as:**

Vegetable glycerin softens and hydrates human skin, increasing smoothness and suppleness. It is often used in skincare and also works as a laxative. It has antimicrobial and antiviral properties. In biofabrication, it may act as:

plasticizer for flexible bioplastics

softener for leather(-like) materials

additive for soap bubble mixes

solvent for pigment extraction[[3]](#footnote-3)

**Abundant in**

**Processing information**

Dissolves in: cold and hot water, and alcohol

PH value: 5

**Renewable in (months/years)**

Glycerine from soy: byproduct of soybean biodiesel industry

Glycerine from palm oil: kernels of palm fruits are harvested all year round. But is also connected to deforestation issues[[4]](#footnote-4)

Glycerine may be a byproduct from soap manufacturing

**Eco-compatibility[[5]](#footnote-5)**

Energy use: heat and/or pressure is used to create glycerine

Shelf life: years if unopened, check smell

Toxicity: non-toxic

Distance from origin to site of use: soy, palms and coconut are most-used and grow mostly in warm climates. Most vegetable oils are – in theory – suitable to produce glycerine.

**Concerns and contestations**

Some people have an allergic skin reaction to vegetable glycerine.

**Selecting the right type**

Choose a plant-based glycerine, it should state on the label what it is made of.

**Sustainability tags**

Biodegradable

Vegan

Made of by-products or waste

Renewable

1. Petre, Alina (2018), “What is vegetable glycerin? Uses, benefits and side effects”, *Healthline*, 19 December, https://www.healthline.com/nutrition/vegetable-glycerin#what-it-is [↑](#footnote-ref-1)
2. *Sciencing.com*, “How to make glycerine from vegetable oil”, https://sciencing.com/sources-of-organic-matter-in-soil-12347549.html [↑](#footnote-ref-2)
3. “Glycerol”, *Wikipedia:* https://en.wikipedia.org/wiki/Glycerol [↑](#footnote-ref-3)
4. What is sustainable palm oil? *Greenpalm.org*, https://greenpalm.org/about-palm-oil/sustainable-palm-oil [↑](#footnote-ref-4)
5. Lerma, Beatrice (2010). Materials ecoefficiency and perception. *Proceedings: CESB 2010 Prague - Central Europe towards Sustainable Building 'From Theory to Practice'*: pp. 1-8. [↑](#footnote-ref-5)