

TECHNICAL DATA SHEET

Product name: Squalane of plant origin (olive)

INCI name: Squalane

CAS: 111-01-3

Synonyms: Perhydrosqualene; Dodecahydrosqualene

Chemical classification: Hydrocarbon

Functional category: Skin care agent ~ occlusive ~ emollient, hair care agent

Description: Squalane is a naturally occurring organic compound, a linear triterpene hydrocarbon. It is derived from olive oil. Most skincare products contain this type of plant-derived squalane because it is an ethically acceptable and environmentally sustainable choice compared to synthetic squalane. Its structure lacks double bonds, making it less prone to oxidation compared to unsaturated compounds like squalene. Squalane is biodegradable, considered non-toxic, and safe for use. It is well-tolerated by most people and is not known to cause sensitivity or allergic reactions on the skin. The molecular mass is approximately 422.82 g/mol. It has a density of about 0.81 g/cm³. The boiling point is around 285-330°C (545-626°F). It is a clear, colorless, odorless liquid. Insoluble in water, it is soluble in various organic solvents such as ethanol, acetone, and mineral oil. It is naturally present in small amounts in the lipid layers of the skin (sebum).

Benefits:

- **Excellent hydration:** Squalane is an extremely effective hydration agent, helping retain moisture and preventing skin dehydration and dryness. It forms a protective barrier on the skin's surface, reducing transepidermal water loss (TEWL), maintaining hydrated and elastic skin.

- **Lightweight and non-sticky:** Squalane has a light and non-sticky texture, making it suitable for all skin types, including oily and acne-prone skin. It provides hydration without clogging pores or creating a greasy feeling.

- **Strengthening skin barrier:** It helps reinforce the skin's natural barrier function, protecting against external aggressors such as pollution and UV radiation, reducing the risk of irritation.

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- **Antioxidant properties:** While squalane itself is not an antioxidant, its stability can aid in stabilizing and delivering antioxidants like vitamins C and E more effectively to the skin. It can help combat free radicals and prevent premature aging.
- **Improves skin texture:** Regular use of squalane can improve skin texture, making it smooth and even. It can reduce the appearance of fine lines and wrinkles associated with dry skin.
- **Non-irritating:** Well-tolerated by most people, it is unlikely to cause sensitivity or allergic reactions.
- **Versatile ingredient:** Compatible with a wide range of skincare substances, it can be incorporated into various formulations to enhance their moisturizing properties.
- **Natural emollient:** Squalane can be obtained from natural sources such as olives, sugarcane, rice bran, and wheat germ. Sustainable and environmentally friendly production methods are often used, making this substance environmentally acceptable.
- **Fast absorption:** Squalane is quickly absorbed into the skin, allowing other active ingredients to penetrate deeper and act more efficiently.
- **Stability and durability:** Squalane is stable and has a long shelf life, preserving the effectiveness of the final skincare product over time. It does not oxidize in the air or under the influence of ultraviolet rays, effectively protecting the skin from external undesirable influences.
- **Non-comedogenic:** Squalane is non-comedogenic, meaning it will not clog pores or cause acne. This property makes it suitable for acne-prone skin.

Usage: Can be added to the oil phase of formulations. Typically used in concentrations from 1% to 10%. For external use only.

Applications: Used in the formulation of skin creams, lotions, hair care products, massage oils, makeup products, and lip care.

Raw material source: Olive oil

Extraction method: Obtained through the hydrogenation of the unsaponifiable fraction of olive oil.

Animal testing: The substance has not been tested on animals.

GMO: Not genetically modified.

Vegan: Does not contain components of animal origin.

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