

## TECHNICAL DATA SHEET

**Product name:** Castor Oil

**INCI name:** Ricinus Communis Seed Oil

**CAS:** 8001-79-4

**Botanical name:** Ricinus communis

**Synonyms:** Ricinus communis L., Castor Bean Oil

**Chemical classification:** Fats and Oils

**Functional category:** Skin care conditioner, conditioner for normal, dry, and dehydrated hair ~ Emollient

**Extraction method:** Cold-pressed

**Type of processing:** Refined oil, subjected to a filtration process, utilizing the so-called "screen-filtering process" method

**Origin of raw material:** India

**Description:** A natural vegetable oil obtained from the seeds of the castor plant (*Ricinus communis*). The oil's density is lower than water, meaning it floats on the surface of water. It has a relatively high refractive index. Ricinoleic acid in castor oil contains a hydroxyl group (-OH) on its 12th carbon, giving it unique properties compared to other vegetable oils. This hydroxyl group contributes to the oil's solubility in alcohol and its hydrophilic nature. Like other vegetable oils, castor oil can undergo saponification, a chemical reaction with an alkali (such as sodium hydroxide) to produce soap. The oil has good oxidative stability due to the high content of ricinoleic acid, making it less prone to spoilage compared to some other vegetable oils. The oil is insoluble in water but soluble in alcohol and other organic solvents. It is very viscous, having a thick and sticky consistency. Its color is light yellow with a distinctive smell. The thick texture of castor oil and its moisturizing properties make it a popular ingredient in skin care products and cosmetics. HLB = 14.

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**Phytochemicals:** The oil is rich in triglycerides of various fatty acids (90% ricinoleic acid, 3-4% oleic acid, 3-4% linoleic acid). Ricinoleic acid is responsible for many of the unique properties of castor oil, including its anti-inflammatory, analgesic, and antimicrobial efficacy. The oil contains oleic acid, an omega-9 monounsaturated fatty acid, and linoleic acid, an omega-6 polyunsaturated fatty acid. Additionally, the oil contains stearic acid, a saturated fatty acid that helps stabilize the oil and give it a thick consistency. Castor oil also contains phytochemicals like phytosterols, flavonoids (quercetin, kaempferol, and luteolin), and certain terpenoids (lupeol, beta-amyrin, and alpha-amyrin). It contains Vitamin E, a potent antioxidant that helps protect the skin from oxidative damage and contributes to its overall health.

### Benefits:

- **Skin hydration:** Castor oil forms a protective barrier on the skin, preventing moisture loss and keeping the skin soft and smooth. Thanks to ricinoleic acid, deep hydration of the skin is possible.
- **Emollient properties:** An excellent emollient that leaves a feeling of softness and smoothness on the skin. It penetrates pores and attracts impurities, making it useful in skin cleansing lotions.
- **Anti-inflammatory properties:** The presence of ricinoleic acid in castor oil gives it anti-inflammatory properties. It soothes irritated and inflamed skin, making it useful for people with eczema and dermatitis.
- **Acne control:** Possesses antimicrobial properties that can help fight acne-causing bacteria. Its low comedogenic index makes it suitable for acne-prone skin.
- **Hair care:** Castor oil is often used in hair care products due to its nourishing and moisturizing properties. It can help improve hair strength, reduce split ends, and stimulate hair growth.
- **Eyelash and eyebrow growth enhancer:** Some people use castor oil on their eyelashes and eyebrows to stimulate their growth and improve their appearance.
- **Anti-aging effects:** Antioxidants present in castor oil, such as vitamin E, can help fight free radicals and reduce oxidative stress on the skin. This way, the oil can contribute to reducing the visibility of fine lines and wrinkles.
- **Wound healing:** The anti-inflammatory and moisturizing properties of castor oil can help in the faster healing of minor wounds, cuts, and scratches.
- **Makeup removal:** Due to its ability to dissolve makeup, the oil can be used as a gentle and natural makeup remover.

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- **Lip care:** Castor oil can be applied to the lips, especially if they are chapped.
- **Nail and cuticle treatment:** Castor oil can be used for nail massage and cuticle repair.

**Use in cosmetic products:** It is used as an ingredient in creams, lotions, and hair care products. It is a common ingredient in sun protection products. Its specific composition has also made it useful in preparations for the care of eyelashes, eyebrows, and nails. It is widely used as a moisturizer and lubricant in lip care products for a glossy look. It can be used in oil-based perfumes as a neutral fixative. It is also used in massage blends, cleansing products, and exfoliants. It is used in concentrations of 1-100%. It can be added directly to the skin or as part of the oil phase. Common concentrations in shampoos and conditioners are 0.2-2%. For external use only.

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

**GMO:** Not GMO.

**Vegan:** Does not contain animal-derived components.