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Product name: Camphor

INCI name: Camphor

CAS: 464-49-3

Synonyms: 2-bornanone, 2-camphanone, bornan-2-one, Formosa

IUPAC name: 1,7,7-trimethylbicyclo [2.2.1] heptan-2-one

Description: Camphor is an organic compound naturally found in the wood of the camphor tree. Natural camphor is obtained through the distillation of the wood of the camphor tree (*Cinnamomum camphora*), an evergreen tree native to Asia, particularly China, Japan, and Taiwan. The wood, branches, and roots are first ground and then subjected to steam distillation. During this process, volatile oils, including camphor, are extracted along with water vapor. Upon cooling, camphor crystallizes from the distillate, while the remaining oils can be used for other purposes. This method allows for the extraction of pure, natural camphor. Chemically, camphor is a bicyclic monoterpene ketone. It is recognizable by its intense, fresh aroma and has been used for centuries for various purposes. In the cosmetics industry, camphor is valued for its soothing and antiseptic properties. On the skin, it provides a cooling effect, which helps to calm irritation, redness, and itching. It is also known to improve circulation, making it a beneficial ingredient in massage products and treatments for sore muscles. Due to its antimicrobial properties, camphor can help reduce acne and other bacterial skin issues. Additionally, it aids in sebum control, making it suitable for oily and problematic skin. Its ability to penetrate the skin and create a warming and cooling sensation makes it a common ingredient in balms and creams for joint and muscle pain. Because of its strong effects, camphor must be used carefully in controlled concentrations to avoid irritation or adverse reactions. Camphor is a white or colorless crystalline substance with a distinctive, intense aroma. It has a melting point between 175–177°C and a boiling point around 204°C. It is soluble in alcohol, oils, and organic solvents but poorly soluble in water. Its density is approximately 0.99 g/cm³ at room temperature. It is also known for its high volatility and ease of evaporation at room temperature.

Mechanism of Action: Camphor produces a warming and cooling sensation due to its effect on nerve endings in the skin. When applied, it first creates a cooling effect as it

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evaporates quickly from the skin's surface, resulting in a temporary feeling of freshness. Simultaneously, it stimulates skin receptors that respond to temperature, inducing a mild warming sensation. This combination helps alleviate pain and discomfort by relaxing muscles and improving circulation while the cooling effect reduces itching and inflammation. For this reason, camphor is commonly used in pain relief products and for soothing skin irritations.

Benefits:

- Provides a soothing effect on irritated skin.
- Helps reduce redness and swelling.
- Exhibits antiseptic properties to combat bacteria.
- Stimulates circulation, promoting skin revitalization.
- Relieves itching caused by certain skin conditions.
- Aids in removing excess sebum, reducing skin oiliness.
- Relaxes muscles and alleviates skin discomfort.
- Offers a refreshing cooling sensation upon application.
- May reduce acne appearance due to anti-inflammatory properties.
- Helps soothe minor skin irritations and rashes.

Usage Instructions: Camphor is used in various cosmetic products due to its specific properties, with recommended concentrations varying based on the purpose and product type. In skincare products such as creams and balms, camphor is typically used at low concentrations, up to 3%, to ensure safety and prevent irritation. In these formulations, it acts as a skin-soothing agent, particularly for irritation, itching, or inflammation. The cooling effect it provides is often utilized to calm sensitive or inflamed skin.

In muscle pain treatments, such as massage balms or creams for sore joints, camphor may be present in slightly higher concentrations within permissible limits, enhancing circulation and reducing pain by creating a warming and cooling sensation. For oily and problematic skin, camphor helps regulate excess sebum and reduce inflammation, being used in low concentrations that are safe and non-irritating. In acne treatments, its antimicrobial properties help combat bacteria causing acne while soothing redness and swelling. In lip care, camphor is used in balms in very low concentrations, providing a cooling sensation and soothing cracked lips. In such cases, careful monitoring of dosage is necessary to avoid irritation due to its potent effects. Camphor is generally added at the end of the production process, when the temperature is lower, as high

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heat can affect its stability and efficacy. Controlled use within prescribed concentrations ensures that camphor provides its benefits without causing adverse effects such as irritation or toxicity.

Natural or Synthetic Ingredient: Camphor can be both natural and synthetic. Natural camphor is obtained by distilling the wood of the camphor tree (*Cinnamomum camphora*). Synthetic camphor is produced chemically, often from turpentine. Both forms have similar properties, but natural camphor is more commonly used in natural cosmetics.

Animal Testing: The substance is not tested on animals.

GMO: Not GMO.

Vegan: Does not contain animal-derived components.

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