

# Cardamom Essential Oil

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## Description

<b>Botanical Name :</b>	<i>Elettaria cardamomum</i> L.
<b>Common name:</b>	Cardamon/ Lesser Cardamon, Elaichi
<b>Plant family:</b>	Zingiberaceae
<b>Genus:</b>	Elettaria
<b>Appearance/Color:</b>	A light, colourless to very pale yellow liquid.
<b>Odor:</b>	Cardamom essential oil is a flavorful and distinct product comes from sweet smelled cardamom seeds. Due to its strong aroma, it has secured a top note in aroma category.
<b>Blends With:</b>	It is a versatile essential oil, cardamom oil can easily be blended with orange, rose, cinnamon Bark , caraway, clove bud and cedarwood.
<b>Origin</b>	India
<b>Source</b>	Seeds
<b>Method of Extraction</b>	Steam Distillation

Cardamom (*Elettaria cardamomum*) is a perennial, herbaceous rhizomatous monocot, belonging to the family Zingiberaceae. It is a native of the moist evergreen forests of the Western Ghats of South India. The cardamom of commerce is the dried ripe fruit (capsule) of the cardamom plant. This is often referred to as the 'Queen of Spices' because of its very pleasant aroma and taste and is highly valued from ancient times. It is grown extensively in the hilly regions of South India at elevations of 600-1300 m as an under crop in forest lands. Cardamom is also grown in Sri Lanka, Papua New Guinea, Tanzania and Guatemala. Guatemala is incidentally the largest producer of cardamom now.

Cardamom is a major spice crop of India and improvement of the crop has attracted considerable attention after independence. The 'Western Ghat forests' of the Malabar Coast of India is the centre of origin and the primary centre of diversity of cardamom. In ancient days, cardamom was collected mainly by tribal people as a forest produce. Later, by the end of 19<sup>th</sup> century, cardamom plantations came up in Western Ghat forest areas and also in Ceylon (Sri Lanka). The credit for starting organized cultivation of cardamom goes to the British planters. Later cardamom was introduced to Guatemala from Ceylon by 1920s and after the second world war cardamom production in Guatemala expanded considerably and by 1970s the country became the largest commercial producer of cardamom eclipsing the monopoly of India.

Cardamom oil is produced commercially using crushed fruits. It is used mainly as an alternative to the spice for flavouring a wide range of processed and frozen foods, condiments, gelatines and beverages. It is also used to a minor extent as tobacco flavouring, and in cosmetics, soaps, lotions and perfumes. Oleoresin is used as an oil substitute in similar products.

## Intended Benefits/Uses or Properties

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Cardamom is sometimes known as the 'queen of spices' alongside black pepper, which is known as the 'king of spices'. The dried ripe fruits of cardamom have been used as a spice and in medicines since the 4th century BC. The use of cardamom as an aromatic stimulant is recognised in Britain and Europe, and it is well known for its stomach-calming properties.

### Cardamom Essential Oil in Pharma

In Ayurvedic medicine, cardamom is used to treat disorders of the stomach and urinary system, asthma, bronchitis and heart problems. When mixed with neem and camphor, cardamom is used as a nasal preparation to treat colds. An infusion of cardamom can be used as a gargle to relieve sore throats, which has led to its use in cough sweets.

Cardamom seeds have been used in a range of preparations. Roasted seeds were boiled with betel nuts (fruits of the palm *Areca catechu*) to make a drink that is used to treat indigestion and nausea. They are also added to tea to make a tonic to relieve the symptoms of stress due to overwork or depression. Cardamom seeds are given to patients with bad breath and a capsule of cardamom taken with honey is reputed to improve eyesight. The traditional uses of cardamom to treat skin conditions have attracted the attention of those developing plant-based cosmetics, especially as it has been used traditionally to treat areas of the body that have red-pigmentation. It is often incorporated into soaps and hand creams.

### **Essence of Cardamom Essential Oil**

Cardamom is used as an important flavour in a variety of food products, beverages, and oral formulations of medicines. In addition, cardamom is popular as an after food mouth flavourant in India. Cardamom essential oil is extracted from the seeds. It is mainly used in the flavouring of processed foods and drinks such as cordials, bitters and liqueurs and occasionally in perfumery. Cardamom oleoresin has similar applications to the essential oil. It is mainly used to flavour meat products with a short shelf life, such as sausages. Because the oil has antibacterial activity it has been added to foods as a preservative at low levels. It is used in low quantities so it does not affect the flavour of the food.

Cardamom is used as a breath freshener. It is frequently chewed after meals and may sometimes be included as a flavouring in a betel quid. It is used to a small extent to flavour tobacco.

### **COMMON USAGE**

- Help in digestion
- Prevents heart problems
- Helps in cancer prevention
- Possesses diuretic properties
- Effective against repressive
- Cures asthma
- Reduces blood pressure
- Cures diabetes
- Has anti-inflammatory attributes
- Acts an anti-spasmodic
- Treats dental problems
- Stimulate blood circulation
- Cures sore throats, nausea and vomiting

## **TECHNICAL ANALYSIS**

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**Ingredients:**

S.No	Key Constituents	Strength (%)
1	1,8-cineole	26.5-44.6
2	Linalyl acetate	0.7-7.7
3	a-terpinyl acetate	29.2-39.7
4	Linalool	0.4-5.9
5	(P)-limonene	1.7-6.0
6	Sabinene	2.5-3.8
7	a-terpineol	0.8-4.3
8	Terpinen-4-ol	0.9-3.2
9	b-myrcene	0.2-2.2
10	(E)-nerolidol	0.1-2.7
11	a-pinene	0.6-1.5
12	Geraniol	0.3-1.1

## TOXICOLOGICAL INFORMATION

### Safety Summary

- Hazardous No Data
- Contraindications Not Known

### Organ Specific Effects

- Not Known

### Systemic Effects

- Acute Toxicity
  - Acute oral toxicity: LD50 orl-rat 5g/Kg FCT 12, 837 (1974)
  - Acute dermal toxicity: LD50 skn-rbt >5g/Kg FCT 12, 837 (1974)
- Respiratory sensitization: Not applicable under normal use.
- Germ cell mutagenicity: Not specified
- Carcinogenicity: IARH: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- NTP: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- Reproductive toxicity: Not specified
- STOT-single exposure: Not specified
- STOT-related exposure: Not specified
- Aspiration hazard: Not specified

## ECOLOGICAL INFORMATION

- Info summary of Ecological Information Balance of data on substance, not determined.
- Toxicity Acute fish toxicity: LC50 / 96 HOUR – No data available

- Toxicity to aquatic plants – No data available
- Toxicity to microorganisms – No data available Toxicity threshold – No data available
- Persistence and degradability Biodegradation is expected
- Bio-accumulative potential Bioaccumulation is unlikely
- Mobility in soil Unknown