

PEPPERMINT

Latin Name: *Mentha x piperta* L (pro sp)

Botanical Family: Lamiaceae syn Labiatae

Other Common Names: NA

Extraction Information

Country of Origin: France, England, USA

Part of Plant Used: Leaves

Extraction Method: Distillation

Oil Content: 0.9 – 3%

Color of Oil: Pale Yellow, Clear



Blending Information

Odor Description: Fresh, Menthol, Clean, Cool, Strong

Blending Factor: 1

Note: Middle to Top

Energy: Cool, Dry

Blends Well With: Clary Sage, Eucalyptus globulus, Eucalyptus radiata, Fennel, Hyssop, Juniper berry, Laurel, Lemon, Litsea cubeba, Niaouli, Ravintsara, Rosemary ct cineole, Spearmint, Thyme ct linalool, T. ct. geraniol, T. ct. thymol.

Safety Information:

- Peppermint oil should not be applied to the facial region or near the nose of infant or small children due to risk of spasm and respiratory arrest.⁴
- Avoid undiluted application to open wounds and sensitive skin.
- Peppermint is a potent essential oil and can have differing effects depending on concentration used.
- Reactions to peppermint range from mildly heating or cooling to burning.
- Caution when using internally for individuals who have Gastroesophageal reflux disease (GERD).⁵

Contraindications:

- Contraindications via all routes (methods of application): Cardiac fibrillation, G6PD deficiency.⁵
- Maximum adult daily oral dose: 152mg (6-7 drops per day)⁵

Botany:

There are approximately 20 true species of *Mentha* which is quite active hybridizing itself with other labiatae species. There are thousands of known variations of the *Mentha* species and *Mentha x piperita* is one of them. Considered a cross between *Mentha spicata* and *Mentha aquatica*, peppermint is a perennial which can grow up to three feet tall. It likes to spread and sends out its root system quite extensively. The leaves are dark green, purple-tinged, oval, and sharply toothed. In the summer the plant produces small lilac-pink flowers.

History + Myth

According to Pliny, peppermint was popular both for adornment and flavoring in classical times, after which its only mention for many centuries was in a thirteenth-century Icelandic pharmacopoeia.¹ The name comes from the myth of the nymph, Menthe. Pluto fell in love with her and when his infuriated wife, Persephone discovered them, she pursued Menthe and trod her ferociously into the ground. Pluto then turned Menthe into a wonderful healing plant.² Today peppermint is widely used in commercial flavoring for such items as candy, toothpaste, jelly, muscle pain medicine, chewing gum, mouthwash and jelly. Washington, Oregon, and Indiana are large producers of peppermint for the herb and essential oil. The United States is the world largest producer of peppermint and spearmint oil, producing more than 80 percent of the world's supply.³

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Therapeutic Actions

Analgesic, anti-emetic, anti-inflammatory, antiseptic, antispasmodic, antitussive, antiviral, carminative, cephalic, decongestant, expectorant, febrifuge, insecticidal, stimulant, stomachic, sudorific

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Chemical Feature:

Rich in the alcohol, menthol and the ketone, menthone.

Chemical Composition

Chemical composition of *Mentha x piperita*

Monoterpenes	α -pinene (1.03%), α -terpinene (0.23%), β -myrcene (0.32%), β -phellandrene (0.32%), β -pinene (1.22%), γ -terpinene (0.32%), cis- β -ocimene (0.22%), d-limonene (2.92%), para-cymene (0.32%), sabinene (0.50%), terpinolene (0.16%)
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Sesquiterpenes	α -humulene (0.13%), β -bourbonene (0.20%), β -caryophyllene (2.01%), e- β -farnesene (0.24%), germacrene D (0.94%)
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Monoterpene alcohols	α -terpineol (0.31%), isomenthol (0.18%), δ -terpineol (0.14%), linalool (0.15%), menthol (31.58%) , neo isomenthol (0.68%), neomenthol (3.11%), terpinen-4-ol (0.71%), trans-thuyanol (0.30%)
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Sesquiterpene alcohols	cadinol (0.77%)
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Ketones	carvone (1.08%), isomenthone (3.95%), menthone (27.49%) , piperitone (0.25%), pulegone (1.84%)
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Esters	menthyl acetate 4.91 other esters 0.22
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Oxides	1,8-cineole (5.00%), caryophyllene epoxyde (0.14%), menthofuran (3.36%)
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Core Aromatic Applications:

Circulatory system: sluggish circulation (use with rosemary or black pepper), varicose veins, Raynaud's syndrome

Digestive system: travel sickness, stomach upsets, colic, cramping, dyspepsia, excess gas, nausea, stomach cramps, irritable bowel syndrome⁶, spastic colon, post-surgical nausea

Lymph/immune: supports lymphatic drainage, chronic fatigue syndrome

Musculoskeletal: muscular stiffness, aches and pains, tight muscles, rheumatism, pain, fibromyalgia, sprains, strains, plantar fasciitis, carpal tunnel syndrome, sciatica, bursitis, bruises, can reduce swelling and pain.⁷

Nervous system: mental fatigue, headache⁸, migraine, neuralgia

Reproductive/endocrine system: dysmenorrhea, painful cramps

Respiratory system: bronchitis, halitosis, spasmodic cough, head cold, common cold, congestion, sinusitis, flu

Psyche/Emotion: fatigue, clears the mind, stimulating, invigorating and uplifting, dislike of exercise, limited communication skills, low self-esteem, nervous depression, lethargy, apathy, mental fatigue, aids concentration (use with Rosemary), inspires enthusiasm

Subtle/Energetic: An invigorating and consciousness-expanding EO. Can be used to facilitate the digestion of new ideas and impressions.⁹ Can help to clarify and refresh the emotional state of the individual.

Ayurveda: Indicated for excess kapha, cooling to pitta conditions, supports the movement of the breath (vata).

TCM: Energetically cool/dry, Helps to circulate Qi-energy, clear hot phlegm, and stimulates the nerves and brain.¹⁰

Keywords: Refreshing, cooling/warming, stimulating, digestive, pain relieving, relieves nausea

Research/ Additional Notes:

NOTE: Peppermint is routinely offered in many chemotherapy units in the United States and England to prevent and relieve nausea. Inhalation is recommended at a low dosage: 2 to 3 drops on a cotton swab.¹¹

Research:

- **Peppermint (*Mentha x piperita*) has antispasmodic activity.**^{12,13,14}
Both the volatile oil as well (-)-menthol reduce the serotonin-induced contraction of the rat ileum and possess a direct relaxant effect. The effect of the volatile oil is partly mediated by (-)-menthol; additionally there are other components involved in the overall effect of peppermint oil.¹⁵
- ***Mentha x piperita* exhibits antiviral activity against the herpes simplex virus type 1 (HSV-1).**
The essential oil of *Mentha x piperita* is also capable of exerting a direct virucidal effect on the herpes simplex virus type 1 (HSV-1).¹⁶
- **Peppermint (*Mentha x piperita*) exhibits antimicrobial and antioxidant activity.**¹⁷
As the industries tend to reduce the use of chemical preservatives in their products, EO of *M. piperita* with potential active antimicrobial properties might be considered as a natural source for the maintenance or extension of the shelf life of products. In addition, delectable taste of the EO at the concentrations needed for antimicrobial properties was a bonus to its antimicrobial effects.¹⁸
- **Peppermint (*Mentha x piperita*) effective for relieving pain of headaches.**¹⁹
A cutaneous application of a 10% peppermint oil in ethanol solution significantly reduced the clinical headache intensity already after 15 minutes ($p < 0.01$). This significant clinical reduction of the pain intensity continued over the one-hour observation period. This controlled study showed for the first time that a 10% peppermint oil in ethanol solution efficiently alleviates tension-type headache. Peppermint oil thus proves to be a well-tolerated and cost-effective alternative to usual therapies.²⁰
- **Peppermint (*Mentha x piperita*) is an effective anti-emetic for post-operative nausea.**²¹
- **Peppermint oil showed antifoaming and carminative activity in vitro.**
Reductions in gastric and intestinal foam volume were observed in vitro studies with peppermint oil. The carminative effect results from a combination of actions. Antifoaming activity associated to the relaxation of the oesophageal sphincter may release the gastric gas. The antimicrobial activity helps to reduce the intestinal gas.²²
- **Peppermint oil found effective for treating Irritable Bowel Syndrome (IBS).**
Peppermint oil is a carminative with potent antispasmodic properties and our double-blind cross-over trial shows that it reduces abdominal symptoms in the irritable bowel syndrome. (Eighteen patients who had active symptoms of the irritable bowel syndrome participated in the trial. The peppermint oil was prepared by placing 0-2 ml in gelatin capsules (Elanco LOK caps), which were then coated with a cellulose acetate-phthalate solution to prevent disintegration within the stomach; identical placebo capsules that contained arachis oil were prepared. Capsules were dispensed in containers with free peppermint oil injected under the cap to ensure that both types of container smelt strongly of peppermint. Patients were asked to take one or two capsules thrice daily, depending on the severity of symptoms.)

SAFETY NOTE:

Peppermint oil should not be used internally or on or near the face in infants and young children because of its potential to cause bronchospasm, tongue spasms, and, possibly, respiratory arrest.²³

INTERNAL USE:

Use with caution in persons with gastroesophageal reflux or with a hiatal hernia, as peppermint may decrease esophageal sphincter pressure. Peppermint essential oil may cause heartburn in sensitive individuals. Enteric-coated peppermint leaf essential oil capsules

may cause anal burning, especially in patients with diarrhea. The standard internal dose is 180 – 350mg in enteric-coated capsules, three times a day. High dosages of peppermint oil can cause burning in throat.

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