

## Peppermint (*Mentha piperita*) - Herbal Boon

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### SUMMARY

Peppermint (*Mentha piperita*) is widely used in food, cosmetics and medicines. It has been proven helpful in symptomatic relief of the common cold. It may also decrease symptoms of irritable bowel syndrome and decrease digestive symptoms such as dyspepsia and nausea, although more research is needed. It also act as a good antioxidant and have antimicrobial property also. It is used topically as an analgesic and to treat headaches. Peppermint is on the FDA's GRAS (generally recognized as safe) list and whole herb peppermint has few side effects. However, peppermint oil can cause heartburn or perianal irritation, and is contraindicated in patients with bile duct obstruction, gallbladder inflammation and severe liver damage, and caution should be used in patients with GI reflux.

### INTRODUCTION

Peppermint's Latin name, *Mentha piperita*, comes from the Greek *Mintha*, and the Latin *piper*, meaning pepper. It is one of the world's oldest medicinal herbs, and is used in both Eastern and Western traditions. Ancient Greek, Roman, and Egyptian cultures used the herb in cooking and medicine. Peppermint (*Mentha × piperita*) is a (usually) sterile hybrid mint, a cross between watermint (*Mentha aquatica*) and spearmint (*Mentha spicata*) (Peirce, 1999). Peppermint, lamb mint, brandy mint, balm mint, curled mint, amenta and lammint are different common names of peppermint. Its botanical family is 'Leguminosae'. It is widely cultivated India, China, Europe, Australia, America and some other countries. Different species of peppermint are as described in table.

Species name	Common name	Origin	Physical properties
<i>Mentha piperita</i> L.	Peppermint	Central and Southern Europe	Short, distinctly stalked leaves with purplish stems, growing 2-4 feet in height. The plant has reddish, clustered flowers and a distinct peppermint odor, with a pungent, burning taste
<i>Mentha x piperita officinalis</i> L.	White peppermint	Europe	Perennial, growing to approximately three feet in height. Whole plant emits a pleasant odor and has a mild peppermint taste.
<i>Mentha x piperita vulgaris</i> L.	Black peppermint	Europe	Perennial, growing to approximately three feet in height. Leaves have a strong, pungent, peppermint aroma and flavor.

### The major constituents are:

1. Volatile Oils- Menthol, Neomenthol, Isomenthol, Limonene, Pulegone
2. Monoterpenes- Menthone, Menthyl acetate, Menthofuran, pinene, Carvone, Cadinene. (Balas and Saxena, 1984).
3. Flavanoids- luteolin, Menthoside, Isorhoifolin (Orani et al., 1991)
4. Phenolic acid- Caffeic acid, chlorogenic acid, rosmarinic acid.
5. Triterpenes- Squalene, urosolic acid (Lucida and Wallace, 1998)
6. Azulene and minerals
7. Vitamin- Vit. A and tocopherol

**Uses :** Peppermint has a high menthol content, and is often used as a flavouring in tea, ice cream, confectionery, chewing gum, and toothpaste. It is the oldest and most popular flavour of mint-flavored confectionery. Peppermint can also be found in some shampoos and soaps, which give the hair a minty scent and produce a cooling sensation on the skin. Peppermint, like many spices and herbs, is believed to have medicinal properties when consumed. It helps against upset stomachs, inhibits the growth of certain bacteria, and can help smooth and relax muscles when inhaled or applied to the skin. Other health benefits are due to the high manganese, vitamin C and vitamin A

content; as well as trace amounts of various other nutrients such as fibre, iron, calcium, folate, potassium, tryptophan, magnesium, omega-3 fatty acids, riboflavin, and copper. Peppermint flowers are heavy nectar producers and honeybees as well as other nectar harvesting organisms forage them heavily. A mild, pleasant varietal honey can be produced if there is sufficient acreage of plants. Menthol is the primary component of the essential oil of peppermint. It occurs naturally as a colorless crystal or powder.

Menthol is mostly responsible for the spasmolytic nature of peppermint. It stimulates bile flow, reduces the tone in the esophageal sphincter, facilitates belching, and has antibacterial properties. It is used as a local anesthetic agent in cold and cough preparations (Vicks Vapo-Rub, lozenges and syrups) and in liniments for insect bites, eczema, poison ivy, hemorrhoids, toothaches, and musculoskeletal pain (Ben Gay). It is used as an antitussive in chest rubs or inhaled as a steam vapor. Its use dates back to 1890, when it was developed as a topical rub to treat whooping cough. It is thought to provide a local anesthetic action on the lungs and throat, suppressing the cough reflex. Peppermint leaf and oil are used for folk medicine, as flavoring agents, and in cosmetic and pharmaceutical products throughout the world (Gardiner, 2000).

**Toxicity:** The toxic compounds in peppermint are pulegone and menthol and minute quantity of pennyroyal.

**Acute Toxicity :** Enteric coated peppermint oil capsules adversely reacted including hypersensitivity reaction, contact dermatitis, abdominal pain, heart burn perianal burning, bradycardia and muscle tremor (Bromm et al., 1995). The excessive inhalation of mentholated preparation has caused reversible nausea, anorexia, cardiac problem and some others. In patients noted contact sensitivity to menthol and peppermint with oral symptoms including burning mouth syndrome, recurrent oral ulceration, or a lichenoid reaction (Morton et al., 1995).

**Chronic Toxicity :** Peppermint oil obstructs bile ducts, gallbladder inflammation, and liver damage (Lucida and Wallace, 1998). In rats, studies shown that exposure to high concentration of menthol vapour had no gross toxic effect. There are no chronic toxicity studies in humans.

## CONCLUSION

As peppermint have many medicinal values its used to cure many diseases in different forms like extracts, essential oil and miscellaneous. Nut now a days it is also used in few foods which comes under the category of nutraceuticals food or functional food. It is incorporated partially in food to develop medicinal value added food at various proportion. It have different uses like antimicrobial activity, antioxidant, coolant effect and other properties. Mostly it is used in different beverages and chutnies.

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