



## Methyl Salicylate (Gaultheria Oil)

Methyl salicylate is an organic ester that is commonly used in various industries for its unique properties. It is a colorless or pale yellow liquid that is derived from salicylic acid and methanol, and it has a characteristic wintergreen odor.

In medicine, methyl salicylate is often used as a topical analgesic for its pain-relieving properties and reducing inflammation.

Methyl salicylate is also used in the production of various industrial products, such as fragrances, flavorings, and solvents. It can also be used as a pesticide, and is found in some insect repellents.

Methyl salicylate can be toxic in high doses and should be used with caution. It can also cause skin irritation or other adverse reactions.

### Chemical Identity

**Name:** Methyl Salicylate

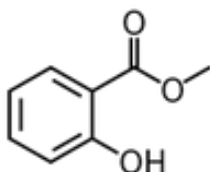
**Chemical name (IUPAC):** Methyl 2-hydroxybenzoate

**Synonyms:** Salicylic acid, methyl ester, Oil of wintergreen, Betula oil

**CAS number:** 119-36-8

**Molecular formula:** C<sub>8</sub>H<sub>8</sub>O<sub>2</sub>

**Structure:**



### Physical/ Chemical Properties

Property	Value
Physical state	Liquid
Form	Colorless to pale yellow liquid
Color	Colorless to pale yellow
Odor	Sweet Rooty Minty,
Melting point	Wintergreen -8.6 °C
Boiling point	222 °C
Relative density	1.174 g/ cm <sup>3</sup>
Self-ignition temperature	452.7 °C
Vapor pressure	1 mmHg
Molecular weight	152.149 g/mol
Water solubility	0.639 g/L
Flash point	96 °C

### Uses & Applications

#### • PHARMACEUTICALS

**Pain relief:** Methyl salicylate is commonly used as a pain reliever in topical analgesic creams and ointments. It works by providing a warming and cooling sensation that can help to reduce pain and inflammation.

**Medical applications:** Methyl salicylate is also used in some medical applications, such as in the treatment of fungal infections and as a component of some diagnostic tests. However, it is important to note that methyl salicylate can be toxic if ingested in large quantities.

#### • FOOD APPLICATION

Methyl salicylate is also used as a flavouring agent in food and beverages, particularly in products such as chewing gum, candy, and soft drinks.

#### • FRAGRANCE APPLICATION

Methyl salicylate has a pleasant wintergreen-like aroma and is often used as a fragrance in perfumes, soaps, and other personal care products.

#### • OTHER APPLICATIONS

**Insect repellent:** Methyl salicylate is a natural insect repellent and is used in products such as insect sprays, candles, and lotions to help repel mosquitoes and other insects.

**Industrial applications:** Methyl salicylate is used in various industrial applications, including as a solvent in the production of plastics, resins, and coatings, as well as in the manufacturing of perfumes and fragrances.



## Salicylic Acid

Salicylic acid is an organic acid that is widely used in various industries for its diverse properties. It is a pink, off-white to white crystalline powder which is synthesized chemically.

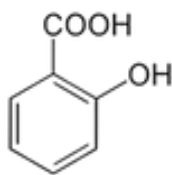
In medicine, salicylic acid is commonly used as a topical treatment for various skin conditions, including acne, psoriasis, and warts. It works by helping to remove dead skin cells and reducing inflammation.

Salicylic acid is also used in the production of various industrial products, such as dyes, fragrances, and rubber. It can also be used as a food preservative, and is found in many fruits and vegetables.

Salicylic acid should be used with caution, as it can be toxic in high doses. It can also cause skin irritation or other adverse reactions in some people.

### Chemical Identity

**Name:** Salicylic acid  
**Chemical name (IUPAC):** 2-hydroxybenzoic acid  
**CAS number:** 69-72-7  
**Molecular formula:** C<sub>7</sub>H<sub>6</sub>O<sub>3</sub>  
**Structure:**



### Physical/ Chemical Properties

Property	Value
Physical state	Solid
Form	Pink, off white to white crystals
Color	White
Odor	Odorless
Melting point	158.6 °C
Boiling point	200 °C
Relative density	1.443 g/ cm <sup>3</sup>
Self-ignition temperature	540 °C
Molecular weight	138.122 g/mol
Water solubility	2.48 g/L (25 °C)
Flash point	157 °C

### Uses & Applications

#### • PHARMACEUTICALS

**Acne treatment:** Salicylic acid is a common ingredient in many over-the-counter acne treatments. It helps to unclog pores, exfoliate dead skin cells, and reduce inflammation, which can all contribute to clearer skin.

**Psoriasis treatment:** Salicylic acid can be used to help treat psoriasis, a skin condition that causes thick, scaly patches on the skin. It can help to reduce the thickness of the skin and promote the shedding of dead skin cells.

**Pain relief:** Salicylic acid is the active ingredient in aspirin, which is used to relieve pain and reduce fever.

#### • PERSONAL CARE

**Wart and corn removal:** Salicylic acid is also used to remove warts and corns. It works by breaking down the skin cells that make up the wart or corn, which can eventually cause them to fall off.

**Skin exfoliation:** Salicylic acid is a beta hydroxy acid (BHA), which means it can help to exfoliate the skin. It can be used in facial peels or as an ingredient in exfoliating scrubs to help remove dead skin cells and promote brighter, smoother skin.

#### • FOOD APPLICATION

**Flavor Enhancer:** Salicylic acid is sometimes used as a flavor enhancer in food products such as chewing gum and mints.

#### • FRAGRANCE APPLICATION

Salicylic Acid is used in production of intermediate like methyl salicylate, Benzyl salicylate.



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