

# Pine oil

Not to be confused with [Pine nut oil](#).

For the byproduct of wood pulp production sometimes called pine oil, see [tall oil](#).

## Pine oil<sup>[1]</sup>



Pine (*Pinus sylvestris*) essential oil in a clear glass vial

## Other names<sup>[hide]</sup>

Essential oil of pine  
Yarmor

## Identifiers

<a href="#">CAS number</a>	<a href="#">8002-09-3</a> <sup>✓</sup>
<a href="#">Beilstein Reference</a>	8191505

## Properties

<a href="#">Molecular formula</a>	Mixture
Appearance	Colorless to pale yellow liquid
<a href="#">Density</a>	0.86 g/cm <sup>3</sup> at 25 °C (approximate)
<a href="#">Melting point</a>	-55 °C
<a href="#">Boiling point</a>	200-220 °C
<a href="#">Solubility in water</a>	Insoluble
<a href="#">Vapor pressure</a>	4 mmHg

## Hazards

<a href="#">Flash point</a>	30 °C (86 °F)
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<sup>✓</sup> [\(verify\)](#) [\(what is: ✓/✗?\)](#)

Except where noted otherwise, data are given for materials in their [standard state](#) (at 25 °C, 100 kPa)

[Infobox references](#)

**Pine oil** is an [essential oil](#) obtained by the [steam distillation](#) of needles, twigs and cones from a variety of species of [pine](#), particularly *[Pinus sylvestris](#)*.

It is used in [aromatherapy](#), as a scent in [bath](#) oils, as a cleaning product, and as a [lubricant](#) in small and expensive [clockwork](#) instruments. It is naturally deodorizing, and antibacterial. It may also be used varyingly as a [disinfectant](#), [massage](#) oil and an

[antiseptic](#). It is also used as an effective organic herbicide where its action is to modify the waxy cuticle of plants resulting in desiccation.<sup>[2]</sup>

Pine oil is distinguished from other products from pine such as [turpentine](#), the low-boiling fraction from the [distillation](#) of pine sap, and [rosin](#), the thick tar remaining after turpentine is distilled.

Chemically, pine oil consists mainly of cyclic [terpene alcohols](#).<sup>[1]</sup> It may also contain terpene [hydrocarbons](#), [ethers](#), and [esters](#). The exact composition depends on various factors such as the variety of pine it is produced from and the parts of the tree used.

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### [\[edit\]](#) Properties as a disinfectant

Pine oil is a [phenolic](#) disinfectant that is mildly antiseptic.<sup>[3]</sup> Pine oil disinfectants are relatively inexpensive and widely available. They are effective against *Brevibacterium ammoniagenes*, the fungus *Candida albicans*, *Enterobacter aerogenes*, *Escherichia coli*, [Gram-negative enteric bacteria](#), household germs, Gram-negative household germs such as those causing [salmonellosis](#), [herpes simplex](#) types 1 and 2, [influenza type A](#), influenza virus type A/Brazil, influenza virus type A2/Japan, intestinal bacteria, *Klebsiella pneumoniae*, odor-causing bacteria, mold, mildew, *Pseudomonas aeruginosa*, *Salmonella choleraesuis*, *Salmonella typhi*, *Salmonella typhosa*, *Serratia marcescens*, *Shigella sonnei*, *Staphylococcus aureus*, *Streptococcus faecalis*, *Streptococcus pyogenes*, and *Trichophyton mentagrophytes*.<sup>[4]</sup>

It will kill the causative agents of [typhoid](#), [gastroenteritis](#) (some agents), [rabies](#), enteric fever, [cholera](#), several forms of [meningitis](#), [whooping cough](#), [gonorrhea](#) and several types of dysentery.<sup>[5]</sup> It is not effective against spore related illnesses such as [tetanus](#) or [anthrax](#) or against non-enveloped viruses such as [poliovirus](#), [rhinovirus](#), [hepatitis B](#) or [hepatitis C](#).<sup>[5]</sup>

### [\[edit\]](#) Froth floatation

Industrially, pine oil is used in metal extraction from ores.<sup>[1]</sup> For example, in [copper extraction](#) pine oil is used to soak all [copper sulfide](#) ores for [froth flotation](#). Therefore, it is an important in the industry for the froth floatation process.

## [\[edit\]](#) Safety

Pine oil has a relatively low human toxicity level, a low corrosion level and limited persistence; however, it irritates the skin and mucous membranes and has been known to cause breathing problems.<sup>[3]</sup> Large doses may cause [central nervous system](#) depression.<sup>[1]</sup>

[http://en.wikipedia.org/wiki/Pine\\_oil](http://en.wikipedia.org/wiki/Pine_oil)

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## Therapeutic properties

The therapeutic properties of pine oil are antimicrobial, antineuralgic, antirheumatic, antiseptic, antiviral, bactericidal, balsamic, cholagogue, deodorant, diuretic, expectorant, hypertensive, insecticidal, restorative, rubefacient, adrenal cortex stimulant as well as stimulant to the circulation and nervous system.

Therapeutic  
properties  
explained

## Uses

Pine oil is most useful to relieve mental, physical and sexual fatigue, while having a cleansing and invigorating effect on an area and is great for vapor therapy in a sick room as it promotes healing.

It can be used for cuts and sores, scabies and lice and for excessive perspiration, while its warming properties help with rheumatism, arthritis, gout, muscular aches and pains and it can stimulate circulation. Furthermore it can help in cases of bronchitis, asthma, catarrh, coughs, laryngitis, colds and flu. It eases breathlessness and sinusitis.

As a general kidney cleanser, it is effective with cystitis, prostate problems and urinary infections and can also help with nervous exhaustion, neuralgia and mental fatigue.

## Summary

Pine oil can be useful in the treatment of the respiratory tract, for muscular aches and pains, and as a urinary cleanser.

- **Burners and vaporizers**

- In vapor therapy it can be used for asthma, colds, coughs, smokers cough, drowsiness, hangover and sinusitis.

- **Blended oil or in the bath**

- In a blended massage oil or diluted in the bath, it can be used for asthma, cellulite, colds, coughs, hangover, infections, rheumatism and sinusitis.

Care should however be taken if you are prone to allergic reactions, and this oil may also irritate the mucus membranes.

## **Pine oil blends well with**

Although most essential oils blend well with one another pine oil blends particularly well with [cedarwood](#), [eucalyptus](#), [lavender](#), [niaouli](#), [rosemary](#) and [sage](#)

<http://www.essentialoils.co.za/essential-oils/pine.htm#Therapeutic%20properties>

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## **Pine oil poisoning**

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Pine oil is a germ-killer and disinfectant. This article discusses poisoning from swallowing pine oil.

This is for information only and not for use in the treatment or management of an actual poison exposure. If you have an exposure, you should call your local emergency number (such as 911) or the National Poison Control Center at 1-800-222-1222.

## **Poisonous Ingredient**

Pine oil (terpenes)

## **Where Found**

- Various cleaning products
- Some porcelain cleaners

## Symptoms

- Eyes, ears, nose, and throat
  - Difficulty swallowing
  - Throat burning
  - Eye burning
- Lungs
  - Breathing difficulty
- Gastrointestinal
  - [Abdominal pain](#)
  - [Diarrhea](#)
  - [Nausea](#)
  - [Vomiting](#)
- Heart and blood circulation
  - [Rapid heartbeat](#)
- Nervous system
  - [Unconsciousness](#)
  - [Convulsions](#)
  - [Dizziness](#)

## Home Care

Seek immediate medical help. Do NOT make a person throw up unless you are told to do so by a doctor or poison control.

## Before Calling Emergency

Determine the following information:

- The patient's age, weight, and condition
- Name of product (as well as the ingredients and strength, if known)
- The time it was swallowed
- The amount swallowed

## Poison Control

The National Poison Control Center (1-800-222-1222) can be called from anywhere in the United States. This national hotline number will let you talk to experts in poisoning. They will give you further instructions.

This is a free and confidential service. All local poison control centers in the United States use this national number. You should call if you have any questions about poisoning or poison prevention. It does NOT need to be an emergency. You can call for any reason, 24 hours a day, 7 days a week.

Take the container with you to the hospital, if possible.

See: [Poison control center - emergency number](#)

## What to Expect at the Emergency Room

The health care provider will measure and monitor the patient's vital signs, including temperature, pulse, breathing rate, and blood pressure. Blood and urine tests will be done. The patient may receive:

- Endoscopy -- camera down the throat to see burns in the esophagus and the stomach
- Fluids through a vein (by IV)
- Medicines to treat symptoms
- Tube through the mouth into the stomach to wash out the stomach ([gastric lavage](#))
- Washing of the skin (irrigation), perhaps every few hours for several days
- Skin debridement (surgical removal of burned skin)

## Outlook (Prognosis)

How well a patient does depends on the amount of poison swallowed and how quickly treatment was received. Swallowing pine oil can have severe effects on many parts of the body. Usually the biggest problem is that pine oil is swallowed (aspirated) into the lungs instead of the stomach, causing problems breathing.

The faster a patient gets medical help, the better the chance for recovery.

## References

Ford M, Delaney KA, Ling L, Erickson T, eds. *Clinical Toxicology*. 1st ed. Philadelphia, Pa: Saunders Elsevier; 2001.

Goldfrank LR, Flomenbaum NE, Lewin NA, et al, eds. *Goldfrank's Toxicologic Emergencies*. 8th ed. New York, NY: McGraw Hill; 2006.

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Updated by: Eric Perez, MD, Department of Emergency Medicine, St. Luke's-Roosevelt Hospital Center, New York, NY. Review provided by VeriMed Healthcare Network. Also reviewed by David Zieve, MD, MHA, Medical Director, A.D.A.M., Inc.

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The herpes simplex virus is commonly divided into the type 1 and type 2 classes, also known as HSV-1 and HSV-2. While type 1 is generally limited to mouth sores, and spreads through sharing utensils or by kissing, some people with this virus also develop genital lesions. Type 2, also known as genital herpes, comes from sexual contact. People with both types suffer periodic outbreaks, often triggered by stress or illness. There is no cure, but pharmaceutical, over-the-counter and herbal remedies may lessen symptoms and speed healing. Recent research links pine oil with possible symptom relief, but always talk to your doctor before attempting any self-treatment.

## Pine Oil

Long used in cleaning products because of its germ-killing properties, pine essential oil comes from the needles of various types of pine tree. Essential oils are extremely concentrated liquids extracted from leaves, needles, roots and other parts of plants. Natural healers use pine oil for inhalation therapy and as topical medicine. Its most common external use involves adding it to creams or alcohol rubs to soothe aching muscles or to chest rub formulas for congested lungs and sinuses. While some herbalists may use the oil in internal medicine, those unfamiliar with its potency should stick to pine needle infusions rather than ingesting the more concentrated pine essential oil, notes Jeanne Rose, author of "The Aromatherapy Book."

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## Theory

Studies conducted at the University of Heidelberg in Germany tested dwarf pine, chamomile, anise, [lemon](#) and peppermint essential oil as possible herpes treatments. The research team examined the essential oils for their efficacy against both type 1 and type 2 herpes simplex viruses. Pine oil achieved a 99 percent success rate against the type 1 virus and 98 percent against the type 2 virus. The team concluded that topical ointments featuring pine oil essential oil "might be useful" in treating herpes viruses on the mouth or genital area, especially drug resistant strains, the study authors concluded.

# Considerations

Other than the 2008 study, alternative medicine formulas for treating herpes do not involve pine oil. The pine oil research used in vitro tests, making human trials necessary before the actual extent of pine oil's ability to treat herpes viruses is known. Ask your practitioner if more research needs to be done before she can recommend using pine oil to treat herpes. Prescription or over-the-counter herpes products containing pine oil may be unavailable, entailing that you guess at the right percentage of pine oil to other [ingredients](#) when crafting a cream, salve or tincture.

# Alternative Recommendations

UMMC cites studies that found lemon balm, rhubarb and sage creams to be effective against cold sores, and peppermint oil to stop several viruses, including herpes. Additionally, research links aloe vera gel to a reduction in genital herpes in men, according to UMMC. Aromatherapist Jeanne Rose recommends preparations made with lemon balm, basil, grapefruit, [tea](#) tree, hyssop or lavender oils. Mayo Clinic, which includes alternative medicine options for some conditions, lists none for either genital or mouth herpes.

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Read more: <http://www.livestrong.com/article/353475-pine-oil-herpes/#ixzz2NFzrnLQU>

## Pets::

### Toxin

Pine Oils

### Source

Sanitizers and disinfectants.

### General Information

Pine oils are irritating to [mucous membranes](#). They are also readily absorbed from the [GI](#) tract resulting in severe GI signs such as vomiting and diarrhea. The kidneys and [central nervous system \(CNS\)](#) are also affected. Cats, birds, and some reptiles appear to be more susceptible to toxicity than other species.

### Toxic Dose

0.5-1.1 ml per pound of body weight; lower amounts may cause severe damage.

### Signs

The odor of pine oils is often present. Also see irritation to the inside of the mouth, retching, vomiting, drooling, abdominal pain, increased body temperature, progressive CNS signs including weakness, [ataxia](#), and [coma](#). [Pulmonary](#) damage may result from [aspiration](#) or chemical pneumonia from absorption of pine oil from the GI tract and subsequent deposition in the lungs. [Ocular](#) exposure will cause eye pain, holding the eye closed, and tearing.

### Immediate Action

Give water, milk, or egg whites. DO NOT induce vomiting as aspiration may result due to rapid onset of CNS signs. If ocular exposure has occurred, rinse eyes with sterile saline or water for 30 minutes. In cases of [dermal](#) (skin) exposure, bathe and rinse thoroughly. Seek veterinary attention.

### Veterinary Care

**General treatment:** Milk, water, or egg whites are administered followed by [activated charcoal](#). If ocular exposure has occurred, eyes will be flushed with sterile saline for 30 minutes. If dermal exposure occurred, the animal will be thoroughly bathed and rinsed well.

**Supportive treatment:** [IV](#) fluids are administered to maintain hydration and [electrolyte](#) balances. The animal is monitored and treated for [hyperthermia](#) and pneumonia if necessary.

**Specific treatment:** Unavailable.

### Prognosis

Guarded

Keep this and all other medications out of the reach of children and pets.