

Compiled by Dirk Gillabel, 2017



On the internet there is a lot of confusion about taking natural turpentine for its healing benefits. Some people report that small doses of turpentine have healed them of their ailments or diseases. Others claims that you should never take turpentine orally, it will kill you. The latter seem to make that statement based on the wrong information, as turpentine has a history of healing benefits, and it is allowed by the FDA as a food additive, and as an ingredient in certain medicines. The vague statement that turpentine is lethal probably comes from a misinterpretation of the scientific data. A lot of information is available about the toxic effects of chronic exposure to turpentine fumes in work places. I have found that in some official documents a lot of symptoms are mentioned for turpentine poisoning, but they don't mention at what dose turpentine become toxic to the body. This creates a lot of confusing at the least, even more so when they don't mention if that poisoning resulted from oral ingestion of from breathing fumes.

At the other hand, there is little scientific information available about turpentine's healing and/or toxic effects of taking turpentine orally.

Turpentine is an essential oil (from the pine tree). Essential oils do have many healing benefits when taken in small doses. Too much or undiluted is never good.

This article aims at providing you with the necessary information about the nature of turpentine oil, the history, the healing and the toxic effects. I have given the links to the relevant sources so you can look up the original documents or information yourself.

Text between square brackets [] is mine to clarify certain terms which might not be clear to the reader.

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Natural Turpentine and Mineral Turpentine

Natural turpentine comes from the pine tree and is made up primarily of two volatile terpenes: alpha-(around 65%) and beta-(around 25%) pinenes. Percentages vary according to the kind of pine tree and the processing method. Terpenes are the dominant odorous compounds emitted by trees, shrubs, flowers and grasses.

The other principal constituents are camphene, limonene, 3-carene, and terpinolene.

Natural turpentine, as a solvent, has been used in the past for thinning of oilbased paints. Also, note that turpentine is a flammable substance.

In the last century, the industry replaced natural turpentine by the cheaper chemically produced mineral turpentine. It is very different chemically.

Mineral turpentine, also called white spirit, mineral spirits or petroleum spirits, is a petroleum-derived clear liquid used as a common organic solvent in painting. It is a mixture of aliphatic compounds (C7 to C12 nonaromatic hydrocarbon molecules). Mineral turpentine is a hazardous substance.

In this article we talk only about **natural** turpentine.



Natural Turpentine from Pine Trees

Turpentine (also called spirits of turpentine, gum of turpentine, oil of turpentine, wood turpentine) is a fluid obtained by the distillation of resin obtained from pine trees (Pinus spp.).

To tap into the sap producing layers of the tree, turpentiners use a combination of hacks to remove the pine bark. Once debarked, pine trees secrete oleoresin (balsam) onto the surface of the wound as a protective measure to seal the opening, to resist exposure to micro-organisms and insects, and to prevent vital sap loss. Turpentiners wound trees in V-shaped streaks down the length of the trunks to channel the oleoresin into containers. The oleoresin (also called gum turpentine, pine gum, pine resin) obtained from these trees consists of 75 to 90 percent resin (gum rosin) and 10 to 25 percent turpentine oil.



picture from <u>LiveJournal</u>

Crude oleoresin collected from wounded trees is then evaporated by steam distillation.

The type and amount of specific constituents is dependent on the type of pine tree, the geographical location of the trees, and the season of tree harvest.

There is a very nice article about the history of turpentine harvest and distillery at the <u>DaysGoneBy</u> website with a lot of old pictures.



Distilling turpentine from the crude resin in the pine forests of North Carolina 1903 (<u>DaysGoneBy</u>)

Terpenes in Nature

Turpentine contains mostly two terpenes: a- and β -pinenes. What are terpenes?

Terpenes are not only found in the turpentine oil from pine trees. Terpenes are largely found in essential oils of many types of medicinal plants and flowers. They give the unique smell of aromatic plants. Some examples:

- Conifers (Pinophyta): who is not familiar with their special, distinctive scent?
- Clove (Eugenia caryophylatta) contains triterpenoids (similar to terpenes).
- Anise (Pimpinella anisum) contains monoterpines-, sesquiterpines and trinorsesquiterpines.
- Oregano (Origanum vulgare) consists mostly of monoterpenes and sesquiterpenes.
- Mint: menthol is a terpenoid, found in the essential oils of the mint family (Mentha spp).

- Citrus fruit contain limonene, a terpene responsible for their flavor and aroma.
- Mangoes have heavy doses of myrcene, the terpene responsible for giving a clove-like smell.
- Eucalyptus: contains monoterpenes that are abundant in the foliage, providing the characteristic smell.
- Rosemary (Rosmarinus officinalis): the major active chemical in rosemary essential oil is 1,8-cineole, a terpene.
- There are about 140 known terpenes found in cannabis. These terpenes are mostly found in high concentrations in unfertilized female cannabis flowers prior to senescence (the condition or process of deterioration with age).

There are also some insects, marine algae, and sea slugs producing terpenes.

Terpenes play an important role by providing the plant with natural protection from bacteria and fungus, insects and other environmental stresses. Hence, their strong anti-microbial properties.

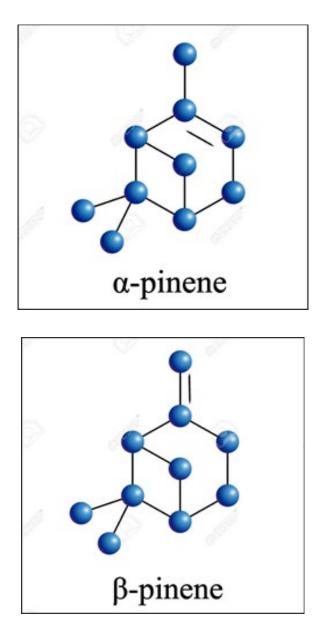
Terpenes are small molecules that are easily absorbed into the blood stream through the nose or lungs, and through the intestinal tract. Terpenes are so small they can easily cross the blood-brain barrier, which means they can be absorbed by the brain and have a direct effect on the brain.

Terpenes are anti-inflammatory and in large doses have anesthetic properties.

Terpenes are also major biosynthetic building blocks within nearly every living creature. "There is a multitude of different forms of terpenes ranging from aromatic and seasoning substances, internal scaffolding of cells up to hormones and vitamins. Nature prefers modular structures (the degree to which a system's components may be separated and recombined). This is clearly evident in terpenes since they all have a branched hydrocarbon called isoprene consisting of 5 carbon atoms. The combination of two isoprene units results in monoterpenes with 10 carbon atoms in all. This array can be continued in analogy: diterpenes have 20, triterpenes 30 and tetraterpenes feature 40 carbon atoms. By stringing together a multiple of these 10 carbon units, natural polyterpenes like caoutchouc (natural rubber) and gutta-percha (natural latex) will generate. A further significant group are sesquiterpenes (10 C + 5 C = 15 carbon atoms). By means of functionalizing the terpene base bodies, alcohols, aldehydes, ketones, ethers and acids will form as well as their esters and, not forgetting, also a multitude of cyclic compounds such as steroids, among others." (Fragrances, vitamins and hormones - the ABC of terpenes)

Some vitamins and provitamins also show a terpene structure: β -carotene, Vitamin A, E, K1 and coenzyme Q_{10} .

In short, terpenes are pretty important in nature.



The Healing Effects of Terpines in Turpentine

There is an interesting scientific paper, published in 2009, describing several healing effects of turpentine based on a long list of scientific literature:

<u>The Essential Oil of Turpentine and its Major Volatile Fraction (a- and β -pinenes)</u>: A review, by Beatrice Mercier, Josiane Prost, and Michel Prost, published in the International Journal of Occupational Medicine and Environmental Health, 2009 [Vol. 22, no 4].

This paper provides a summary review of the major biological features concerning the essential oil of turpentine, its origin and use in traditional and modern medicine. It details the safety of the two major compounds of turpentine (the a- and β -pinenes) to human health. Here are a few quotes showing the strong anti-microbial properties of these terpenes:

 Studies report the antibacterial effect of the terpenes (alpha- and betapinenes) on both Gram-negative [these are bacteria that do not retain the crystal violet stain used in the gram-staining method of bacterial differentiation] and Gram-positive [bacteria that give a positive result in the Gram stain test] bacteria as well as a strong anti-fungal activity.

[Many pathogenic bacteria are Gram-negative; they are an important medical challenge, as their outer membrane protects them from many antibiotics. Gram-positive bacteria are more receptive to antibiotics than Gram-negative, due to the absence of the outer membrane.]

- Terpenes are also antioxidants but this antioxidant activity is effective only in a lipophilic [fatty] environment. These compounds also possess antiinflammatory properties and exert spasmolytic [muscle relaxant] and a relaxant activity on the smooth muscles of the intestines.
- Terpenes, containing the first or the second largest part of a-pinenes, fight against pathogenic bacteria and all kinds of fungi. They are able to eliminate the micro-organisms or inhibit their growth as well as intervene on their metabolism.
- a-pinenes are used against mushrooms and yeasts (dermatophytes [a group of three types of fungus that commonly causes skin disease in animals and humans]), especially on Candida albicans and other related species. They are inhibitors in breast cancer, and in vitro present cytotoxic [toxic to cells] activity against human cancer cells but not on the healthy cells like the red blood cells or whole organisms.
- β -pinenes, along with a-pinenes and other terpenes, are cytotoxic on cancer cells. The β -pinenes also show antifungal properties, especially on Candida species, as well as having an antiseptic effect on oral bacterial flora.

In short the a- and β -pinenes eliminate many bacteria and fungi. Turpentine also looks very promising in eliminating Candida, a yeast organism that apparently is found in most people.



Glessner Company Turpo Free Sample Ointment Tin

The Use of Turpentine in History

Turpentine has a long history in the healing arts. In ancient Greece, Hippocrates, Dioscoride or Galien, used the turpentine oil for its properties against lung diseases and biliary lithiasis (the presence of stones or stones inside the gallbladder).

<u>Wikipedia</u> mentions that "Turpentine was a common medicine among seamen during the Age of Discovery, and one of several products carried aboard Ferdinand Magellan's fleet in his first circumnavigation of the globe." (Ferdinand Magellan (1480 – 1521) was a Portuguese explorer who organized the Spanish expedition to the East Indies from 1519 to 1522, resulting in the first circumnavigation of the Earth.)

In the 16th century surgeons put oil on wounds. In 1536, during the siege of Turin, Ambroise Pare, a surgeon, ran out of oil. He resorted to a mixture of egg whites, rose oil and turpentine. (Local Histories)

Turpentine was considered to be effective in expelling worms from the intestines, as an article in The Belfast Monthly Magazine of 1811 demonstrates:

Cases illustrating the effects of Oil of Turpentine in the expelling the tape worm, by John Coakly Lettsom, M. D. and president of the Medical Society.

Phil. Mag. xxxvi; 307

Dr. Lettsom was consulted in Sep. 1809, by a gentleman 35 years of age on account of an uneasiness in the abdomen, with dyspepsia, which were supposed to originate from toenia, or tape worm, as small portions of it had occasionally been evacuated downwards. The doctor prescribed a course of male fern, with occasional catharties, as recommended by madame Nonflet. In this plan the gentleman persevered for the space of three months; in which period he discharged, at two different times, about eight yards of the toenia. In April, 1810, he again applied to the doctor, in consequence of labouring under his former complaints; adding, that he imagined, from the long use of the plant recommended, his pains, and particularly the dyspepsia and general debility, had increased. The doctor then ordered the oleum terebinthinae rectificatum, in a dose of nine drachms by weight, and after it a little honey to remove the heat and unpleasant taste it might occasion. In a week after taking the oil the patient informed the doctor, that in a few hours after taking this dose, more than four yards of the toenia were discharged, at the second motion, and also a quantity of matter, resembling the substance of the skins of the toenia. The medicine produced little or no pain, and at least much less than the purgative he had taken after the use of the male fern. The subsequent motions contained no toenia, nor any of the substance before mentioned. He experienced no pain or heat in the urinary passages, though the urine continued to impart a scent of turpentine for three or four days. The patient has since remained in perfect health, enjoying a degree of comfort, to which he had been a stranger for the preceding half year. He also said that the medicine, while swallowing,

occasioned less heat than the same quantity of brandy, or other spirit; and that the taste, and heat, which it caused, were soon removed by the honey. From this, and other instances, the doctor is induced to conclude, that the best method of taking the oil, is without any admixture: that the dose of nine drachms occasions very little inconvenience: and that this quantity, perhaps owing to its guick purgative effect, excites no irritation in the urinary passages, although it imparts its peculiar smell to the urine. The doctor prefers giving the medicine uncombined, in which state it is not attended with any particular inconvenience; and states, that there is no certain method of ascertaining the presence of the toenia but by actual discharge of portions of the worm itself, as the pains and heaviness of the abdomen, the dyspenia and emaciation which the worm occasions, may also be produced by other causes. In the number of the Philosophical Magazine, which follows that from which the foregoing account is extracted, several other cases are related, where the oil of turpentine has been administered for worms; in most of which it succeeded so well, as to leave little doubt of its being very superior to most medicines hitherto used for the same purpose.

Source: <u>Cases Illustrating the Effects of Oil of Turpentine in the Expelling</u> <u>the Tapeworm</u> by Lettsom, John Coakly Publication date 1811-01-31 Publisher The Belfast Monthly Magazine

In the 19th and 20th century Europe, it was recommended against "the blennorrhoea (an excessive discharge of watery mucus, especially from the urethra or the vagina) and cystitis (an infection that affects part of the urinary tract). Also, for neuralgias (nerve pain), rheumatism, sciatica (pain going down the leg from the lower back), nephritis (inflammation of the kidneys), drop (sudden fall to the ground without an obvious 'blackout'), constipation and mercury salivation (to produce an excessive secretion of saliva by mercurial poisoning)." (The essential oil of turpentine and its major volatile fraction (a- and β -pinenes))

"In the past, turpentine oil was used medicinally both externally and internally. A clear distinction was made between turpentine oil and the steam-distilled wood turpentine [=from finely chopped stumped wood], with only the former accepted for use medicinally. Externally, turpentine oil was used in liniments as a stimulant and counterirritant. Turpentine to be taken orally was "rectified" by reacting it with sodium hydroxide. Most of the original oil was distilled off the sodium hydroxide/turpentine mixture, and then dried with either anhydrous calcium chloride or anhydrous sodium sulfate. Rectified turpentine was used in human and veterinary practice as a stimulant diuretic [increases production of urine], anthelmintic [killing of parasitic worms and other intestinal parasites], carminative [prevent formation of gas in the gastrointestinal tract or facilitate the expulsion of said gas], and expectorant [helps loosening of mucus in lungs]," (Turpentine, Review of Toxicological Literature, by Karen E. Haneke, M.S., 2002)

Dr. Jean Valnet (1920-1995), a French doctor of Psychiatry, Microbiology, Colonial Medicine and Surgery, has an extensive description of the healing properties of turpentine in his 1983 book *La phytothérapie: Traitement des Maladies par les Plantes* (Phytotherapy: Treatment of Diseases by Plants) as:

Internal use:

- Modifies trachea-bronchial [windpipe and lungs] secretions (phlegm), with beneficial effect.
- balsamic [soothing], pulmonary [pertaining to the lungs] and genito-urinary antiseptic. Antiseptic especially with regard to Streptococcus, given in the form of sub-cutaneous [beneath the skin] injections (as a turpentine artificial serum at a strength of 1/200) and intra-uterine and vaginal douches (emulsions of soap bark)
- haemostatic [retarding or stopping bleeding]
- dissolves gallstones
- diuretic [increases production of urine]
- antispasmodic [suppresses muscle spasms]
- antirheumatic
- vermifuge [expelling of intestinal worms]
- antidote to phosphorous; particularly when old, the essence prevents the oxidation of phosphorous

External use:

- parasiticide [destroying of parasites]
- analgesic [painkiller]
- revulsive (counter-irritant)
- antiseptic, cicatrizing [to heal by inducing the formation of a cicatrix, this is new tissue that forms over a wound and later contracts into a scar]

Indications:

Internal use:

- chronic and fetid bronchitis, pulmonary tuberculosis
- urinary and renal [kidney] infections, cystitis [infection of the urinary tract that is caused by bacteria], urethritis {inflammation of the urethra]
- leucorrhoea [thick, whitish or yellowish vaginal discharge]
- puerperal fever [infection of some part of the female reproductive organs following childbirth or abortion]
- haemorrhage [bleeding from a ruptured vessel] (intestinal, pulmonary [from the lungs], uterine, haemophilia [inherited genetic disorder that impairs the body's ability to make blood clots, a process needed to stop

bleeding], nose bleeds)

- gallstones
- oliguria [low output of urine]
- dropsy [swelling of soft tissues due to the accumulation of excess water]
- rheumatism
- spasms (colitis [inflammation of the inner lining of the colon causing rectal bleeding, diarrhea, abdominal pain, and abdominal spasms], whooping cough)
- flatulence
- migraine
- intestinal parasites (especially tapeworm)
- chronic constipation
- epilepsy
- accidental consumption of phosphorous

External use:

- rheumatism, gout [a form of inflammatory arthritis characterized by recurrent attacks of a red, tender, hot, and swollen joint], neuralgia [nerve pain], sciatica [pain going down the leg from the lower back]
- atonic [without normal tone, tension or stress] wounds and sores, gangrenous wounds [tissue death caused by not enough blood supply]
- scabies [a contagious skin infestation by the mite Sarcoptes scabiei], lice
- leucorrhoea [thick, whitish or yellowish vaginal discharge]
- puerperal [infections [infection of some part of the female reproductive organs following childbirth or abortion]



FDA Approval

As with all products, health or toxicity is a matter of dosage. One tablet of Aspirin, for example, can diminish pain, fever, or inflammation, but twenty tablets will cause problems. The same with natural products. Too much turpentine will cause adverse reactions. It is necessary to be aware of the possible dangers of too much turpentine, because turpentine is a refined and strong essential oil.

A lot of people seem to think that the Food and Drug Administration (FDA) considers turpentine to be poisonous and that it will kill you if you consume even one drop, but that is a misinterpretation of the data.

The FDA lists turpentine in *Food Additives Permitted For Direct Addition To Food For Human Consumption*. This is a list of natural flavoring substances and natural adjuvants that may be safely used in food. Source: [Code of Federal Regulations] [Title 21, Volume 3] [Revised as of April 1, 2017] [CITE: 21CFR172.510]

In regard to using turpentine in medicines, the FDA has been restricting the use of turpentine as an ingredient.

In <u>Turpentine</u>, <u>Review of Toxicological Literature</u>, by Karen E. Haneke, M.S., 2002) it is mentioned that:

"In a broad effort to remove ineffectual ingredients in non-prescription drugs, the FDA began the review of all non-prescription drugs in 1972 (FOI Services, 1989, 1990). In 1987, turpentine oil was considered by the FDA to be a "nonmonograph" ingredient in cough suppressant formulations and not to be used as such without FDA approval (Washington Drug Letter, 1987). Furthermore, in 1989, the FDA ruled that only one ingredient (guaifenesin) was effective as a

cough expectorant. All formulations containing turpentine oil had to be reformulated within 12 months, or have sales halted (FOI Services, 1989). Turpentine oil was also banned for use in nasal decongestant medications unless the manufacturer could prove to the FDA that it was safe and effective as a nasal decongestant (FOI Services, 1990).

"In 1992, the FDA proposed banning 415 ingredients in over-the-counter medications because they were not shown to be safe and effective for their stated claims (FDA, 1992). Turpentine was listed as one of the ingredients to be banned for treatment of fever blisters, cold sores, insect bites and stings, menstrual pain, and treatment for poison ivy, oak, and sumac. Most of the ingredients had been in use prior to 1962, when a change in the law required drug manufacturers to submit proof of effectiveness for new drug products. No further information on this action was found."

In the Code of Federal Regulations of 2017 (<u>CFR - Code of Federal Regulations</u> <u>Title 21</u>), turpentine oil is approved by the FDA for these medicinal purposes:

- Nasal Decongestant Drug Products, for Expectorant Drug Products
- Fever Blister and Cold Sore Treatment Drug Products
- Insect Bite and Sting Drug Products
- Poison Ivy, Poison Oak, and Poison Sumac Drug Products, for Insect Bite and Sting Drug Products
- for Counterirritant Drug Products.

If you are familiar with <u>Vicks VapoRub</u>, did you know that it contains turpentine oil, although it is listed as inactive ingredient. VapoRub is indicated for use temporarily relief of cough due to minor throat and bronchial irritation associated with the common cold. It also temporarily relieves minor aches and pains of muscles and joints.

Overdose Effects

How dangerous is the oral use of turpentine? <u>Turpentine, Review of Toxicological</u> <u>Literature, by Karen E. Haneke, M.S., 2002</u>) mentions two studies:

Ingestion of turpentine usually results in gastrointestinal (GI) tract irritation and central nervous system (CNS) depression within two to three hours. These effects generally subside within 12 hours except in severe exposure cases. Signs and symptoms of turpentine poisoning include nausea, vomiting, diarrhea, weakness, somnolence [sleepiness], or agitation (Lewander and Aleguas, 1998) and in glucosuria [excretion of glucose into the urine], hematuria, albuminuria [the presence of red blood cells in the urine], and anuria [non-passage of urine, usually by failure of the kidneys] (Chapman, 1941).

It is not mentioned how much turpentine was consumed to result in these symptoms. The ingestion probably was of pure turpentine, not diluted.

How much is too much? The mean oral lethal dose (LD_{50}) of turpentine is reported to be 5760 mg/kg for rats (NIOSH). The LD_{50} is the dose at which half of the test population dies. It is expressed in the amount of the product per unit of body weight. 5760 mg/kg means 5.76 grams of turpentine per 1 kg of body weight. If we extend this to my body weight, 120 lb or 54 kg. (yes, I am a light=weight), then we have 311 grams. 311 grams of water is 311 ml. Turpentine's density is 0.9 (water is 1.0), thus 311 grams of turpentine is 280 ml. 280ml is 9.5 fluid ounces, or 1.2 cups. Frankly, I cannot imagine anybody drinking a whole cup of pure turpentine. It does give you an idea that consuming too much turpentine can give you a lot of problems. The <u>Delware Health and</u> <u>Social Services</u> writes that: "Fortunately, turpentine causes taste and odor problems before reaching toxic levels in humans." Nevertheless, keep it away from children.

Jennifer Daniels, the big proponent of turpentine for healing, states that one teaspoon of turpentine is the minimum effective dose (or the lowest dose at which you can expect to get results) she takes, once or twice a week. She started noticing strange effects when she took a little more than two teaspoons. One teaspoon is 5 ml. (from a radio interview)

The National Park Service in Colorado writes in its <u>Environmental Contaminants</u> <u>Encyclopedia, Turpentine Entry (1997)</u>, (based on scientific literature) that

- In humans, turpentine is considered to be slightly toxic when used properly and poisonous if taken internally. [again, no doses is mentioned]
- Will cause taste and odor problems before reaching toxic levels. [this is in line with the above statement of the Delaware Health and Social Services]
- Nevertheless it can cause serious irritation of kidneys.
- Turpentine exposure can lead to eye irritation, headache, dizziness, and nausea in humans; inhalation & ingestion can cause bladder irritation. [no doses is mentioned]
- Symptomatology: 1. Burning pain in mouth & throat, abdominal pain. Vomiting. Diarrhea. 2. Mild respiratory tract symptoms are often noted. Coughing, choking, dyspnea [shortness of breath]. Cyanosis [bluish or purplish discoloration of the skin or mucous membranes due to the tissues near the skin surface having low oxygen saturation]. Aspiration [Aspiration means you're breathing foreign objects into your airways. Usually, it's food, saliva, or stomach contents when you swallow, vomit, or experience heartburn. This is common in older adults, infants, and people who have trouble swallowing or controlling their tongue.]. Systemic [affecting the body as a whole] absorption may lead to pulmonary edema [fluid accumulation in the tissue and air spaces of the lungs] & pneumonitis [inflammation of lung tissue due to factors other than microorganisms].

In a lot of websites, both alternative and governmental, and in toxicological data sheets of turpentine, is mentioned that even 15 ml can be fatal in children. That

is not quite correct. The <u>Toxicology Data Network</u>, Or ToxNet, which is a part of the U.S. National Library of Medicine, writes: "A value range of 15 to 90 ml has been determined to be the mean oral lethal dose for humans through numerous reports of turpentine fatalities. ADULT: A dose of 120 to 180 ml may be fatal if no treatment is obtained. PEDIATRIC: A dose of 15 ml was fatal in a 2-year-old child; however, benzene was present in the mixture. Children have survived ingestions of 2 to 3 ounces."

Benzene is extremely harmful. The American Petroleum Institute (API) stated in 1948 that "it is generally considered that the only absolutely safe concentration for benzene is zero" (<u>Wikipedia</u>). It is more likely that benzene killed the child. Nevertheless, keep turpentine away from children!

It is also interesting to know that there is no treatment for an overdose of turpentine. The doctor or emergency center can only monitor or treat the symptoms.

Turpentine is also used for skin applications. Here too, skin problems can result when over-used. Some people's skin is sensitive to turpentine oil. I have applied pure (undiluted) natural turpentine to my skin many times without any problems. If your skin is sensitive to turpentine, it is best to dilute the turpentine with another oil, like a massage oil.

The CDC mentions on one of its pages (<u>Self-Treatment with Herbal and Other</u> <u>Plant-Derived Remedies -- Rural Mississippi, 1993</u>) that "Although turpentine oil is a nontoxic and effective counter=irritant when applied to a small area of the skin, cutaneous [skin] application of larger amounts has been associated with vesicular eruptions [fluid filled pouch like a blister], urticaria [hives, a kind of skin rash with red, raised, itchy bumps], and vomiting."

Occupational Exposure

There has been a lot of research for exposure to turpentine fumes and skin contact in work places.

According to the Occupational Safety and Health Administration (OSHA, 1999), exposures to turpentine occur from the manufacture of turpentine oil and the rosin remaining after removal of the turpentine oil and its primary industrial uses as an ingredient (e.g. flavoring agent), solvent, industrial coatings, and starting material for other compounds. In addition, exposures can occur during pulp and paper processes.

Overexposure to turpentine may cause irritation to the eyes, nose, throat, and lungs.

The CDC has an Occupational Health Guideline for Turpentine.

<u>The National Institute for Occupational Safety and Health (NIOSH)</u>, a department of the Centers for Disease Control and Prevention, list symptoms of over-

exposure in work places, especially its fumes. It has a one-line comment if turpentine is swallowed: "Medical attention immediately". This is such a vague statement. How much has been swallowed? Diluted or undiluted?

If you really want to delve into the issue of occupational exposure, <u>Toxnet</u> quotes several studies of the harmful effects of chronic breathing of turpentine fumes and chronic skin contact.

Turpentine for Animals

Turpentine has been used to treat animals. Here are some examples, from <u>Toxnet</u> quoting from scientific literature:

- Turpentine is used therapeutically as a human ointment and counter-irritant and in veterinary practice as an expectorant [facilitating the secretion or expulsion of phlegm, mucus, or other matter from the respiratory tract], rubefacient [a substance for topical application that produces redness of the skin e.g. by causing dilation of the capillaries and an increase in blood circulation], and antiseptic, owing to its antimicrobial properties.
- For the correction of bloat in cattle and externally as a counter-irritant.
- Topically: liniment or ointment form for sprains or muscle pain, swollen udders in cows, and in fly repellent wound dressings. As an inhalant expectorant in poultry.
- As an ingredient in many ointments, liniments, and lotions for treating minor aches and pains as well as colds.

Modern Day Use for Healing

The turpentine used must be natural turpentine from pine trees, pure and no other ingredients added. I use the <u>Diamond G Forest Products Brand</u>.

Turpentine has come into the daylight again by <u>Dr. Jennifer Daniels</u> (MD), who used it to treat her health problems. Since then, she has been publishing the use of turpentine for healing, and has given several interviews. She uses maximum one teaspoon on three sugar cubes, once a week. You can find her interviews on YouTube. A transcript of a good radio interview with Daniels can be found at <u>One</u><u>Radio Network</u>.

Other people have used different doses and different frequencies. Some have taken it on a daily bases with one or two days off every five or six days. It is suggested to start with a very low dose and work up from there. I started with two drops, and added two drops a day until I got at forty drops (=about half a teaspoon) a day, what I considered to be enough for me. My symptoms cleared up quickly. Every weekend I took one or two days off. I did not take it with sugar cubes, but with my cereal in order to dilute even more.

The reason to start with drop dosages is that when you take a large dose you

might get a large die-off of microbes, and the body has to be able to handle this. There is no need to overwork the body.

Some people take the turpentine oil together with castor oil. People with candida tend to use this method as castor oil coats the digestive tract and helps to spread out the turpentine. Coconut oil, olive oil or any oil will also do.

It is also important to understand that while turpentine will kill off parasites and pathogenic microbes quickly, the body needs time to repair the damage they have done. In this light repeated intake of turpentine in low doses (once or twice a week) is often suggested keeping the parasites and microbes at bay while the body is repairing itself.

There is a post on the GoodMedical website about a person who cured his Lyme disease: <u>Turpentine – Healing My Lyme And Chronic Fatigue</u>

<u>EarthClinic</u> recommends turpentine for parasites, fungus and candida, autism, head lice, arthritis, gout, cold and flu viruses, sore throat, sinus problems, urinary tract infections.

<u>A post by a reader of EarthClinic</u> explains how a tapeworm was expelled.

Midwest Compassion Center (not online anymore) writes about the effects of terpenes: mild sedative, relaxing effect on users and great for sleep, especially for those with insomnia. Due to its antibiotic properties, it has been shown to treat at least two common strains of malaria caused by Plasmodium falciparum. Ability to fight cancer by killing tumors. Scavenging for free radicals which are responsible for causing inflammation.

<u>A Practical Treatise On Materia Medica And Therapeutics</u>, by Roberts Bartholow lists various remedies using turpentine.

Turpentine can be stored and used in a dropper bottle but over time it will disintegrate the rubber.

This article is for informational purposes only. The content is not intended to be a substitute for professional medical advice, diagnosis, or treatment.