

# RECENT ASPECT OF ETHNOBOTANICAL APPLICATION AND MEDICINAL PROPERTIES OF TRADITIONAL INDIAN HERBS SANTALUM ALBUM

Debjit Bhowmik, Karpagam university, Coimbatore, Dipak Biswas, H.S.K.College of  
Pharmacy,Karnataka, K.P.Samath kumar, Department of Pharmaceutical sciences  
Coimbatore medical college  
Coimbatore, Tamil Nadu  
[Email-debjit\\_cr@yahoo.com](mailto:Email-debjit_cr@yahoo.com)

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## ABSTRACT

The health benefits of Sandal Wood Essential Oil can be attributed to its properties like anti septic, anti inflammatory, anti phlogistic, anti spasmodic, astringent, cicatrisant, carminative, diuretic, disinfectant, emollient, expectorant, hypotensive, memory booster, sedative and tonic.Sandalwood is an evergreen tree that is indigenous to India, the Sandal Oil and paste of Sandal is used in medicines, skin and beauty treatments and numerous industrial products including mouth fresheners, edibles, incense sticks, room fresheners, deodorants, perfumes, soaps, lotions, creams and others. It has some really remarkable medicinal properties.The medical properties reside in the oil, which can be pressed from the wood or extracted with alcohol or water. The antiseptic and disinfectant properties of the oil are similar to those of cubeb oil. The oil is used for bronchitis and for inflammation and infections in mucous tissue. A decoction of the wood may be helpful for indigestion, nephritis, gall stones, gonorrhea, sunstroke, prostatitis, urinary antiseptic for cystitis, urethritis, vaginitis, and fever; externally, for acute dermatitis, herpes zoster, skin problems, especially those of bacterial origin. In traditional medicine, sandalwood oil has been used for a wide variety of conditions, ranging from an antiseptic and astringent to the treatment of headache, stomachache, and urogenital disorders. Sandalwood has been documented to have diuretic and urinary antiseptic properties, but mainly the oil extracted from the wood has been used as a fragrance enhancer. Good clinical studies are lacking in support of the medicinal effects of sandalwood oil.Research has found that sandalwood essential oil improves as it ages.

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## INTRODUCTION

Sandalwood is a fragrant wood from which an oil is derived for use in foods and cosmetics. Today, the oil finds little medicinal use but its widespread use as a popular fragrance continues. Good clinical studies are lacking in support of the effects of sandalwood oil. Tertiary resources document the oil as having diuretic and urinary antiseptic properties. Sandalwood is a fragrant wood from which an oil is derived for use in foods and cosmetics. The oil has been used widely in traditional Asian medicine and had been official in the United States at the turn of the century. Today, the oil finds little medicinal use but its widespread use as a popular fragrance continues. Sandalwood oil is useful for treating urinary infections as it soothes and relaxes the urinary system. Hence not only does passing urine becomes easier, but the frequency and quantity also increases.Sandalwood oil massage relaxes

nerves, muscles and helps cure cramps, aches, spasms.If Sandalwood oil is not available, then you can use sandalwood powder for a massage as well. Mix Sandalwood powder to your massage oil and leave it overnight. Then use it the next morning for massaging.Traditionally, sandalwood oil helps acts as a powerful anti-spasmodic agent. It provides relief to nerves, blood vessels and cramps. Menstrual cramps are also relieved by sandalwood pastes. Likewise, it is also used as a carminative. This helps in relieving flatulence and help relief in abdominal cramps. Sandalwood oil commonly is used as a fragrance in incense, cosmetics, perfumes, and soaps. It also is used as a flavor for foods and beverages. The wood has been valued in carving because of its dense character. Indigenous to India, the Malay Archipelago, and Indonesia, the sandalwood is an evergreen tree that grows to 8 to 12 meters in height. Mankind is currently re-discovering the values of

wood, especially its value as an environmental friendly material that is reusable, recyclable, and biodegradable, besides its carbon sink effects. This important bioresource is one of the most useful materials around the world and its usage is both extensive and widespread. In India, it fulfills several key needs of the society. Production and use of wood in a way that sustains its supply will be a key element in sustainable forestry. Extensive use of these technologies can play a significant role in value addition, higher income and employment generation, tree biodiversity conservation, and enhancement of carbon sink, with least ecological costs. However, in the changing global and domestic scenario, Wood Science and Technology R&D cannot limit itself only to technology generation but to gear itself to develop pro-active/ catalytic strategies in developing Researcher-user linkages.

#### CHEMISTRY OF SANTALUM ALBUM

Sandalwood oil is obtained from the heartwood of the plant. This volatile oil contains about 90% alpha- and beta-santalols with a variety of minor components including sesquiterpene hydrocarbons (about 6%). The santalols are responsible for the pleasant odor of sandalwood, although 2-furfuryl pyrrole also may contribute an effect. The seeds yield about 50% of a viscid, dark red, fixed oil. This oil contains stearolic acid and santalbic acid. Gas chromatography fingerprinting of sandalwood oils has been used successfully in light of the complex nature of the components of the oils.

**Scientific Name(s):** *Santalum album* L.  
Family: Santalaceae

#### MEDICINAL PROPERTIES OF SANDALWOOD

Sandalwood is known to have extremely beneficial medicinal properties such as:

- **Anti-inflammatory:** Reduces pain, swelling
- **Antiphlogistic:** Useful to cure fever
- **Anti-septic:** Helps prevents infections
- **Anti-spasmodic** Relieves spasms
- **Carminative:** Removal of gases from stomach and intestine
- **Diuretic:** Increases discharge of urine
- **Emollient:** Softens and soothes the skin.
- **Hypotensive** Reduces blood pressure
- **Memory booster** helps improve memory
- **Sedative:** Has Calming effect reduces anxiety, stress, and irritability

#### TRADITIONAL/ETHNOBOTANICAL APPLICATION OF SANTALUM ALBUM

- ❖ **Anti Septic:** Essential Oil of Sandal Wood is very good as an anti septic. It is safe for both internal and external applications. It ingested, it helps protect internal wounds and ulcers from infections. Similarly, when applied on skin, it protects wounds, sores, boils, pimples etc. from infections and from getting septic.
- ❖ **Anti Inflammatory:** Both Sandal Wood paste and its essential oil are very effective as anti inflammatory agents. They have a nice cooling effect and gives relief from all types of inflammations in brain, digestive system, nervous system, circulatory system, excretory system etc. resulting from infections, fever, side effects of antibiotics, poisoning, insect bites, wounds etc. Sandal Wood Essential Oil is particularly beneficial in case of nervous and circulatory inflammations.
- ❖ **Anti Phlogistic:** Just as it has been discussed above, Sandal Wood Oil has Anti Phlogistic properties and gives relief from inflammations resulting from fever and viral infections.
- ❖ **Anti Spasmodic:** Being a relaxant and sedative in nature, this oil works great against spasm too. It relaxes nerves,

muscles and blood vessels and hence ends spasm or contraction. Thus it is helpful in treating problems associated with spasm, such as cramps, aches, coughs etc.

- ❖ **Astringent:** Although very mild, still this oil has some astringent properties which induce contraction in gums, muscles and skin. This proves beneficial in terms of strengthening hold of gums on teeth, strengthening of muscles, tightening of skin etc.
- ❖ **Cicatrissant:** The essential oil of Sandal Wood soothes skin and helps fading away of scars, spots etc. It has been an old practice to use paste of sandal wood as a skin pack. The same effect can be obtained from this essential oil. This oil is now extensively used in skin-care soaps, lotions and creams.
- ❖ **Carminative:** The Essential Oil of Sandal Wood, being relaxant in nature, induces relaxation in the intestines and abdominal muscles, thereby facilitating removal of gases. It does not also let gases form.
- ❖ **Diuretic:** Due to its relaxing and anti-inflammatory nature, it soothes inflammations in the urinary system and induces relaxation in it, thereby promoting easy passage of urine. It also increases frequency and quantity of urination. This helps a lot treating the infections and inflammations in the urinary system.
- ❖ **Disinfectant:** It is the disinfectant property of Sandal Wood Essential Oil that justifies its such a wide use in the religious ceremonies and cosmetics. Its fragrance keeps away microbes and small insects and that is why it is extensively used in incense sticks, sprays, fumigants and evaporators to disinfect the whole surrounding. Moreover, this oil can be mixed with bathing water or other lotions or oils to apply on skin and wounds and

ensure their protection from infections. This oil can also be safely taken with milk to cure internal infections, such as those in throat, oesophagus, stomach, intestines, excretory tracts etc.

- ❖ **Emollient:** Sandal Oil soothes skin, relieves it from inflammations and irritations, cures infections on it and keeps it fresh and cool.
- ❖ **Expectorant:** Sandal Wood Essential Oil behaves as an expectorant and is particularly effective in treating coughs. It also fights viral infection which causes cough & cold, flu, mumps etc.
- ❖ **Hypotensive:** This is a very useful property of Sandal Wood Essential Oil. It can be taken with milk or even water to reduce blood pressure in patients suffering from high blood pressure. The paste of Sandal Wood has the same effect.
- ❖ **Memory Booster:** It improves memory and induces concentration. It keeps the brain cool and relaxed and saves from undue stress and anxiety.
- ❖ **Sedative:** This oil sedates inflammations, anxiety, fear, stress, restlessness etc. and induces relaxation, calmness, concentration, inner vision, positive thoughts etc.
- ❖ **Tonic:** This oil can be very good health tonic for all, especially for growing children. It can be safely given to them. Since it is soothing on stomach and digestive system, circulatory system and nervous system, it helps these system function in harmony.

#### **Sandalwood essential oil is helpful for:**

1. Dry cough: Inhale, mix in carrier oil and massage into the chest and throat.
2. Itchy, dry skin: Add to your bath or use mixed in carrier oil. (Avocado or wheat germ oils are very nourishing)
3. Nausea, vomiting: Mix in carrier oil and gently massage the stomach or inhale.
4. Stress, tension: Inhale, use in the bath or in a burner. Can aid sleep.

- If you will add the essential oils derived from sandalwood in your bath water. This will reduce your stress and tension. This is also good in case you have sleep related problems.
- In case of vomiting and nausea massaging the stomach with the mixture of carrier oil and sandalwood will give relief. You can also inhale the mixture of these two things to cure vomiting.
- In case of dry cough, inhale the mixture of carrier oil and sandalwood. You can also massage with this mixture on your chest and throat.
- To reduce the itching of skin, you can apply the mixture of carrier oil and sandalwood over the affected part.

## **MIDICINAL USES OF SANDALWOOD**

Sandalwood can be used medicinally in one of three ways, as an Aromatherapy, taken Internally, or used Externally. Used as such, it provides a variety of highly effective treatments, as follows:

**As An Aromatherapy:**  
Sandalwood has a sedative effect on the mental and emotional levels, and can be used effectively for stress, nervousness, anxiety and depression. Sandalwood can have the effect of calming aggression, soothing irritability, and encouraging awareness and compassion. It's easy to see why Sandalwood has been a favorite enhancement for meditation for centuries.

**Used Internally:**  
Using Sandalwood internally is not as popular in the West as it is in Eastern medicinal use, where it is one of the staples of the Ayurvedic medicinal systems and is commonly used for treating abdominal pain, difficulty swallowing, headache, abnormal thirst, and vomiting.

Today, you will find knowledgeable Western herbalists following centuries old standards of relief in using Sandalwood for:

- Bronchitis
- Cough, Colds and Sore Throat
- Fever
- Liver and Gallbladder problems
- Diarrhea
- Nausea, Gastritis
- Tendency toward infection
- Urinary tract infections
- Chronic cystitis

Science has shown that Sandalwood does affect the digestive system by stimulating the production of gastric juices, while relaxing the digestive muscles. It affects the Respiratory System through its muscle relaxing properties as well, acting as an antispasmodic combined with certain anti-inflammatory and antiseptic properties. It is well known to support urinary function and the urinary system by stimulating the production of urine. Be aware this means Sandalwood has diuretic properties, so drink plenty of fluids when using it in this manner. Use: Crushed Sandalwood can be made into a tea. The essential oil should be used as aromatherapy or taken in the smallest possible dosage and only in coated-pill form. The usual oral dosage, according to The Pdr Family Guide To Natural Medicines, is 10 grams (2 teaspoonfuls) of crushed Sandalwood, or 1 gram of Essential Oil.

**Used Externally:**  
Sandalwood or Sandalwood powder may be crushed into a paste and spread on the skin to heal rashes or cleanse the complexion. Be aware that some may be sensitive to Sandalwood, so irritation in this form is possible. Its antiseptic, astringent and anti-inflammatory properties are said to stimulate cell regeneration and assist in healing wounds and scars.

**Sandalwood Paste for Face:**  
There are two types of sandalwood that are commonly found, one is the red sandalwood and another is the white sandalwood. The

red sandalwood is known for its medicinal properties, while the white one is generally employed for skin care. If you are wondering, "is sandal wood powder good for skin", then let me tell you that the sandalwood oil, powder and paste are endowed with antiseptic, anti-inflammatory, disinfectant, astringent and emollient properties. That is why, so many people use sandalwood to treat acne, skin rashes, blackheads, dark spots, blemishes and to get a fair and flawless complexion. One of the most important and noteworthy sandalwood paste benefits is, that it can remove scars, especially those left by acne. To derive all these benefits, you can directly use sandalwood paste on face, or mix it with some other natural skin care products like turmeric, black gram, honey and rose water to further enhance its efficacy. So, here are a few simple recipes that can be prepared by combining sandalwood paste or powder and some readily available natural ingredients. More on sandalwood paste for skin and sandalwood oil for acne.

### **Skin Care Recipes With Sandalwood**

**Turmeric and Sandalwood Paste for Pimples**  
Both turmeric and sandal wood powder are very effective to treat acne and hence, both can be combined to get a pimple free skin. Just mix equal quantity of sandalwood powder and turmeric and then add some water to it. Now mix them properly to make a fine and thick paste. Apply this paste on the pimples and leave overnight. On the next morning, you can wash it off with lukewarm water. This paste will not only help you to get rid of pimples, but also from acne scars.

### **Sandalwood Paste and Black Gram Paste**

As has been mentioned already, sandalwood wood paste or powder can be used for acne scar removal. So, if you are struggling with those ugly acne scar, then just mix sandalwood powder, black gram powder and

a small amount of milk and honey to make a fine paste. Apply this paste on the scarred area and leave for the whole night. On the next morning, wash it with lukewarm water. More on sandalwood paste for acne scar.

### **Sandalwood Paste and Rose Water**

This is perhaps one of the simplest recipe for skin care. Sandalwood powder and rose water can be mixed to make a thick paste to apply on skin. It can be effective in removing acne and acne scar. Just apply the paste on the affected area of the skin and leave for about half an hour. Then use lukewarm water to wash it off.

### **Sandalwood Paste for Fair and Smooth Complexion**

Sandalwood powder or paste is widely used to lighten skin complexion and treat sunburnt skin. To get a radiant complexion, mix sandalwood powder with coconut oil. You can also add a small amount of almond oil to it. Mix all these ingredients to make a paste and apply it on your face. Leave for about half an hour and then wash with lukewarm water. It will remove sun tan and make your complexion even.

### **Sandalwood Paste for Insect Bite and Prickly Heat**

Apart from helping you to get a beautiful skin, sandalwood paste can also help you to get rid of prickly heat, and heal insect bites. The soothing and cooling effects of sandalwood paste, makes it an ideal remedy for prickly heat. Similarly, due to its antiseptic and anti-inflammatory properties, it can be used for treating minor burn, cut and insect bites. Just add turmeric powder (another herbal antiseptic) and milk to sandalwood powder and make a paste to apply on the affected area. Find out more information on sandalwood powder for face. Toxicology



The oil has been found to be irritating in both mouse and rabbit skin test models. The santalols and related compounds have been identified in the blood of mice that inhaled sandalwood fumes under experimental conditions, indicating that systemic absorption of these compounds can occur.

#### **As used as Medicines**

- ❖ In Ayurvedic medicine, the wood is grounded with water to form a paste that is applied to the foreheads of people suffering from fevers.
- ❖ The sandalwood paste is also mixed with coconut water and taken as a drink to decrease dehydration effects.
- ❖ An infusion of sandalwood powder made with water or rose water is used to treat headaches, scorpion stings, dry skin, dermatitis, psoriasis, prickly heat and other skin conditions.
- ❖ Sandalwood paste has also been used to treat warts and forms of skin cancer. Clinical trials are being carried out to investigate this.
- ❖ The infusion has also been used as a deodorant and as a mouthwash to treat bad breath.
- ❖ Oil from the heartwood is used as a skin lotion to treat itching and inflammatory conditions.
- ❖ Sandalwood is mixed with honey, sugar and rice-water to treat digestive disorders.
- ❖ The oil can be added to candles or burnt as incense in rooms with patients that have mental health problems or are very stressed as the perfume has a calming effect.
- ❖ Sandalwood oil is used to relieve tension and stress and so is used in aromatherapy.
- ❖ Santalol has antiseptic and antimicrobial properties.

#### **As used as Cosmetics**

- ❖ Sandalwood oil is expensive oil and is used in skin products. It

has moisturizing, astringent, antiseptic, balancing and stimulating properties.

- ❖ Recommended for dry and aging skin, it can be blended with other plant-derived extracts in hair oils and body lotions.
- ❖ The sandalwood paste is used for its cooling properties in case of skin burns.
- ❖ The paste is used to decrease effects of skin tanning and blotching.
- ❖ Sandalwood paste is also used to attain a clear, smooth and unblemished face.

#### **CONCLUSION**

Sandalwood oil is one of the most widely used oils for aromatherapy purpose in the world. It is famous for its scent and therapeutic effects besides being used traditionally during meditation. The wood of the sandalwood plant is used to extract the oil through the process of steam distillation. It is from the root that the highest quality oil is produced. Sandalwood oil is used as an ayurvedic form of medicine and has the ability to reduce inflammatory conditions like genitor-urinary conditions and inflamed skin. Today aromatherapy uses sandalwood oil for curing dry skin, acne and general irritation besides helping in cases of dry coughs, sore throat, nausea, diarrhea, laryngitis, catarrh and bronchitis. An emulsion or a paste of the wood is a cooling dressing in inflammatory and eruptive skin diseases such as erysipelas, an inflammatory disease of the face and prurigo, an itchy eruption. The oil is useful for scabies too. This oil mixed with twice its quantity of mustered oil is used for removing pimples. In summer, regular application of sandalwood paste on the body, especially for children has a refreshing effect which heals any tiny infected spots. - It is also useful in the treatment of dysentery. It should be administered as for gastric

irritability, aromatic, antiseptic, diuretic. The oil is given internally for chronic

- ❖ mucous conditions, e.g. bronchitis, inflammation bladder. It is also used in chronic cystitis, gleet and gonorrhoea. The oil is used in aromotherapy to lessen tension and anxiety and it was also considered a sexual stimulant in folk traditions. The fluid extract of sandalwood may be better tolerated by some people than the oil.

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