

# Sandalwood Seed Oil

## Australian Sandalwood Seed Oil and Sandalwood Essential Oil



For thousands of years, Australian Aboriginals recognized the benefits of the Australian Sandalwood tree (*Santalum spicatum*, syn. *Fusanus spicatus*), native to much of the desert terrain across Australia. The wood of the Sandalwood tree is used extensively in ceremonial burnings and carvings. The Sandalwood Seed kernel was, and still is, used as a food source and as a traditional medicine for skin and internal afflictions. Generations of elders have passed down this ancient knowledge of the benefits of seed kernel ingestion as a remedy for sore joints, and the rubbing of the crushed kernel on the skin to heal sores, lesions, and burns. Moreover, these traditional healers have recommended rubbing the crushed kernel on the body to provide overall protection from the harsh, arid Australian Outback.

As the largest global source of wild Sandalwood reserves, Australia now accounts for over 60% of the world's supply of Sandalwood. The Forest Products Commission (FPC) of the Western Australian

government manages the harvesting from these reserves to assure viable sustainability measures are in place for the long-term.

This wood is used in a myriad of ways, such as ceremonial incense burning, as well as the further processing and distillation of the heartwood to produce the precious Sandalwood Essential Oil. Recent advancements in extraction techniques are now opening an entirely new and exciting phase of the Australian Sandalwood story – large scale production of Sandalwood Seed Oil.

Sandalwood Seed Oil is a fatty oil produced from the seed kernel of the Sandalwood tree, it has very different properties from the essential oil. Many people have enquired about the differences between the seed oil and the essential oil. This white paper provides a comparison of these two oils produced from different parts of the native Australian Sandalwood tree.

	Sandalwood Essential Oil	Sandalwood Seed Oil
Botanical name	<i>Santalum spicatum</i>	<i>Santalum spicatum</i>
Oil source	Wood (heartwood)	Seed kernel
Part of tree used		
Aroma	Sweet, soft, woody – very fragrant	Very mild nutty aroma, reminiscent of Sandalwood essential oil
Appearance	Pale yellow to golden brown liquid	Clear, yellow to golden-yellow transparent liquid
Main components	Sesquiterpenes and sesquiterpene alcohols	Fatty acid triglycerides
Major compounds	$\alpha$ -santalol 15 - 25% typ. cis- $\beta$ -santalol 5 - 20% E,E-farnesol 2.5 - 15%	Ximenynic Acid 28.5 - 36.5% typ. Oleic Acid 50 - 53%
Extraction method	Steam (water) distillation	Green Chemistry™ CO2 Extraction
Harvest technique	Entire tree is 'pulled' to acquire wood for distillation. <i>Santalum spicatum</i> requires minimum 20yrs growth to achieve good heartwood. Note: the Indian Sandalwood, <i>Santalum album</i> , requires ~30 years to produce quality oil.	Trees yield an annual crop. Approximately 300g of seed (endocarp and kernel) produced from each tree.

Sustainability	The Western Australia Sandalwood harvests are managed sustainably, with new seedlings planted to replace the trees pulled. Western Australian Government production quotas exist to assure long term viability of this native plant.	Trees produce this annual crop of seeds. The commercialization of Sandalwood Seed Oil establishes an incentive for farmers to keep Sandalwood trees in the ground for a longer period of time. This should ultimately lead to older trees for harvest and a higher quality of Sandalwood Essential Oil.
Therapeutic Properties*	<ul style="list-style-type: none"> <li>• Anti-inflammatory properties</li> <li>• Anti-microbial</li> <li>• Anti-viral (e.g. HPV)</li> <li>• Resolve respiratory congestion</li> <li>• Treatment of urinary tract infections</li> <li>• Treatment of skin conditions such as eczema, psoriasis, rash or other inflammation</li> <li>• Lymphatic decongestant, specific for stasis such as varicose veins and swollen limbs</li> </ul>	<p>Australian Sandalwood Seed Oil is a rich source of a natural and highly stable, acetylenic fatty acid called Ximenynic Acid, with well documented pharmacological results.</p> <ul style="list-style-type: none"> <li>• Potent anti-inflammatory</li> <li>• Increases dermal micro-circulation</li> <li>• Effective on varicose veins and cellulitis</li> <li>• Reduces hair loss</li> <li>• Reduces skin oiliness by suppressing sebum secretion</li> <li>• Reduces fat deposition under skin</li> </ul>
Typical uses*	<p><b>Personal care products</b> – acne treatment, dry and inflamed skin conditions, shave products, insect repellent &amp; after-bite, massage oils, bath salts, deodorant, liniment</p> <p><b>Therapeutic</b></p> <ul style="list-style-type: none"> <li>• Dermatitis/Eczema and Psoriasis</li> <li>• Cold sores</li> <li>• Herpes</li> <li>• Lice, tick and other insect bites</li> <li>• Nasal and respiratory congestion</li> </ul> <p><b>Aromatherapy</b></p> <ul style="list-style-type: none"> <li>• Stress reduction, meditation, and relaxation</li> <li>• Air diffusion</li> </ul> <p><b>Fragrance</b> – Perfumery, fixative in fragrance blends, and harmonizer for other scents</p>	<p>Sandalwood Seed Oil is relatively new on the market. Formulators are still developing product concepts and undergoing extensive testing of the formulated products, including:</p> <p><b>Skincare:</b></p> <ul style="list-style-type: none"> <li>• Body moisturisers</li> <li>• Dermatitis/Eczema</li> <li>• Anti-aging creams (day cream, intensive night cream)</li> <li>• Varicose veins and cellulitis</li> </ul> <p><b>Personal Care:</b></p> <ul style="list-style-type: none"> <li>• Hair Care</li> <li>• Lip Balm</li> </ul> <p><b>Medicinal:</b></p> <ul style="list-style-type: none"> <li>• Diaper Rash</li> </ul>

*\*These statements have not been evaluated by the FDA. These products are not intended to diagnose, treat, cure, or prevent any disease.*

## Conclusion

Sandalwood essential oil and Sandalwood Seed Oil are heavily prized for their therapeutic properties. The wonderfully aromatic essential oil is used extensively for its base note in perfumery, as well as its anti-microbial and anti-inflammatory qualities. Only in the past decade have the pharmacological benefits of Sandalwood Seed Oil been discovered, while more recently has the distillation/extraction technology become commercially viable to now offer the benefits of this unique oil to the Personal Care industry.

Please contact us for further in-depth information on Sandalwood essential oil and/or Sandalwood Seed Oil.



### North/South America Sales & Operations

sales@downunderenterprises.com  
Toll free: +1 866 473 6560

### Europe

**Sales & Operations**  
europesales@downunderenterprises.com  
Phone: +61 2 9539 7801

### China/Asia Pacific

**Sales & Operations**  
asiasales@downunderenterprises.com  
China toll free: 400 120 0983  
Other countries: +61 2 9539 7801

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