Lemon Myrtle Oil

Backhousia citriodora

Aroma:

Lemon, fresh, zesty and uplifting.
"More lemon than lemon"

Common Names:

sweet verbena tree, sweet verbena myrtle, and lemon scented backhousia

Therapeutic Properties:

> *"Therapeutically, citral has been shown to exhibit sedative, anti-bacterial, antiseptic, anti-viral, and anti-fungal properties. Aldehydes and particularly citral have long been considered to have anti-tumour properties, though the few studies carried out have proven to be inconclusive" (Webb).*

In 2002, Hayes, *et al.* published the results of their investigations of the antimicrobial and toxicological properties of Lemon Myrtle. It was shown to possess significant antimicrobial activity against the organisms *Staphylococcus aureus, Escherichia coli, Pseudomonas aeruginosa, Candida albicans, methicillin-resistant S. aureus (MRSA), Aspergillus niger, Klebsiella pneumoniae* and *Propionibacterium acnes*. The authors noted that a product containing 1% Lemon Myrtle oil was found to be low in toxicity and could potentially be used in the formulation of topical antimicrobial products.

Research published by Wilkinson *et al.* (2003) demonstrated this plant had antibacterial and antifungal activity against seven bacteria, including MRSA. The authors also presented results for citral, the major component in *B.citriodora*. The authors reported the whole Lemon Myrtle essential oil to be more highly bactericidal than citral alone, confirming research on other essential oils suggesting the beneficial synergistic effect of multiple compounds rather than one "active" component. The authors further cited this oil's potential as an antiseptic or surface disinfectant or for inclusion in foods as a natural antimicrobial agent, even noting its superiority to Australian Tea Tree Oil.

Further research by Hayes *et al.* was published in 2003, on the *in vitro* percutaneous absorption of the essential oil of Lemon Myrtle. Though further research is needed, the

combination of the methodologies used enabled the generation of data that could be applied for a comprehensive evaluation of the toxicity effects of Lemon Myrtle oil for topical application.

Potential Product Applications:

Skincare	Personal Care	Medicinal	Household	Other
Acne	Hand & Body Wash	Foot Spray	Surface Disinfectant	Perfume
Cleanser	Hair Care		Cleanser	Preservative
	Oral Care		Room Freshener	Aromatherapy
	Lip Balm		Detergent	
	Deodorant			

FDA Disclaimer:
These statements have not been evaluated by the FDA. This product is not intended to diagnose, treat, cure, or prevent any disease.

Major Chemical Constituents:

Component:	Indicative Composition (%):
citral	>90

Toxicology and Irritancy:

Oral Toxicity:	mg/kg body weight:	Acute/Chronic:	Model
LD50	2.25 g/kg	Acute Dermal	Rabbits
LD50	4.96 g/kg	Acute Oral	Rats

Absorption of lemon myrtle oil in human skin discs was evaluated following topical application of neat lemon myrtle oil to the epidermal surface. Citral was the only component found to be absorbing into skin at all exposure periods. When a formulated product containing 1% lemon myrtle oil was applied, total absorption of citral was measured. The histopathological assessment indicated limited damage to epidermal cells.

Comments:

This oil is a very effective antibacterial and antifungal. Research conducted by Penfold and Grant as early as 1925 demonstrated the ability of Lemon Myrtle to act as a powerful disinfectant. Their research demonstrated that Lemon Myrtle was a more powerful disinfectant than the more well-known Tea Tree Oil (Rideal-Walker scores: 16 and 11, respectively). More recent works by Hayes, Griffin and others have delved more deeply into the antibacterial efficacy and potential applications for Lemon Myrtle.

The essential oil of Lemon Myrtle works wonderfully for household use in products such as dishwashing and laundry detergents, surface disinfectants, air fresheners, etc. Lemon Myrtle leaf is being used extensively in Australian cuisine. Common applications include fettuccine, ice cream, sauces, marinades, and cakes – it tastes delicious!

Exciting research has been conducted recently into the use of Lemon Myrtle as a cosmetic preservative. The results of these studies are highly encouraging and further longitudinal efficacy studies are underway to establish how this essential oil could offer a favorable – and natural – alternative to synthetic phthalates, phenols, and other formaldehyde-type preservatives.

Indicative Use:

FOR EXTERNAL USE ONLY; NOT TO BE CONSUMED

Bibliography:

Hayes AJ, Markovic B. *Food Chem Toxicol*. Toxicity of Australian essential oil Backhousia citriodora (Lemon Myrtle). Part 1. Antimicrobial activity and in vitro cytotoxicity. 2002 Apr;40(4):535-43.

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Webb M, *Bush Sense*, Griffin Press; Adelaide, Australia. 2000.

Wilkinson JM, Hipwell M, et al. *J Agric Food Chem*. Bioactivity of Backhousia citriodora: antibacterial and antifungal activity. 2003, 51(1):76-81.

About Down Under Enterprises:

Down Under Enterprises is a family-owned business specializing in wholesale supply of Australian native ingredients including essential oils and carrier oils. Our products are 100% pure and natural and derive from our farms in Australia. They are available as conventional farmed, organic, and wild crafted. Each product has its unique therapeutic, antimicrobial, and aromatic benefits.

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