

# MICROENCAPSULATED ESSENTIAL OIL POWDERS

## WHITE PAPER

Botanical's Breath  
[www.botanicalsbreath.com.au](http://www.botanicalsbreath.com.au)



# CONTENTS

THE ESSENCE OF ESSENTIAL OILS

MICROENCAPSULATED ESSENTIAL OIL PROFILES:

- OREGANO
- LAVENDER
- PEPPERMINT
- FRANKINCENSE
- LEMON
- GINGER
- TURMERIC
- CINNAOMON

BENEFITS OF MICROENCAPSULATED ESSENTIAL OIL POWDER

BOTANICAL'S BREATH PRODUCTS

This white paper aims to provide a comprehensive understanding of the benefits that Botanical's Breath microencapsulated essential oils bring to the nutraceutical, flavour, and fragrance industries. By exploring the various advantages of this innovative technology, businesses can make informed decisions about incorporating microencapsulated essential oils in their product formulations, ultimately leading to enhanced product quality, consumer satisfaction, and market success.

## Disclaimer

This document and the information contained herein are intended solely for educational purposes. The content is provided "as is" and without warranties of any kind, either expressed or implied.

While we strive to provide accurate, up-to-date, and reliable information, we make no representations or warranties of any kind concerning the completeness, accuracy, reliability, suitability, or availability of the information contained in this document. The user of this document assumes all responsibility and risk for the use of the information provided. Under no circumstances shall the creators, distributors, providers, or contributors of the content be liable for any direct, indirect, incidental, special, exemplary, or consequential damages arising out of or in connection with the use or performance of the information, whether such liability arises from any claim based upon contract, warranty, tort (including negligence), strict liability or otherwise.

Users are encouraged to consult with appropriate and accredited professionals for advice tailored to their individual circumstances. Any reliance placed on the information contained within this document is strictly at the user's own risk.

This document may contain links to external sites, and the inclusion of any links does not imply a recommendation or endorse the views expressed within them. We have no control over, and assume no responsibility for the content, privacy policies, or practices of any third-party sites or services.

The publishers and authors of this document disclaim any duty to update the information contained herein, and they are not responsible for any errors or omissions or for the results obtained from the use of such information. By accessing, reading, or using this document, you hereby agree to this disclaimer and assume any and all risks associated with the use of the provided information.

This document is not to be reproduced, distributed, or transmitted in any form or by any means, including photocopying, recording, or other electronic or mechanical methods, without the prior written permission of the publishers, except in the case of brief quotations embodied in critical reviews and certain other non commercial uses permitted by copyright law.

By accessing or using this document, you acknowledge that you have read this disclaimer and agree to be bound by its terms. If you do not agree to the terms, please do not use or access the document.





# THE ESSENCE OF ESSENTIAL OILS

## *NUTRACEUTICAL FLAVOUR, FRAGRANCE AND INGREDIENT APPLICATIONS*

In the realm of natural remedies, aromatic experiences, and enhanced sensory delights, essential oils stand as remarkable extracts that have captivated human senses for centuries. Derived from various plant parts, essential oils are concentrated, volatile compounds that carry the distinctive scents and therapeutic properties of their botanical sources. While these oils have long been revered for their historical and cultural significance, their impact on modern applications particularly in nutraceuticals, flavour, and fragrance cannot be overlooked.

### The Essence of Essential Oils

Essential oils are the lifeblood of plants, encapsulating their aromatic essence, complex chemical compositions, and unique properties. These oils are extracted using methods like steam distillation, cold-press extraction, or solvent

extraction, capturing the volatile compounds responsible for their characteristic scents and potential health benefits. The diverse chemical makeup of essential oils gives rise to a wide array of fragrances and therapeutic properties, making them highly sought after in various applications.

### Aromatic Allure and Therapeutic Treasures

Historically, essential oils have been cherished for their holistic benefits, both to the mind and the body. From ancient civilizations to modern wellness practices, essential oils have been used for aromatherapy, massage, and spiritual rituals, often believed to promote relaxation, balance, and emotional well-being. Beyond their aromatic allure, essential oils have also been studied for their potential health-promoting properties, such as immune support, stress reduction, and skin care benefits.

### Significance in Nutraceuticals

In the nutraceutical industry, essential oils have found a place of immense importance. These oils bring not only their aromatic richness but also their potential functional benefits. Essential oils can enhance the sensory appeal of nutritional supplements and functional foods, providing natural flavourings while also contributing to potential health attributes. The careful

the door to creating offerings that combine taste, aroma, and wellness in a harmonious package.

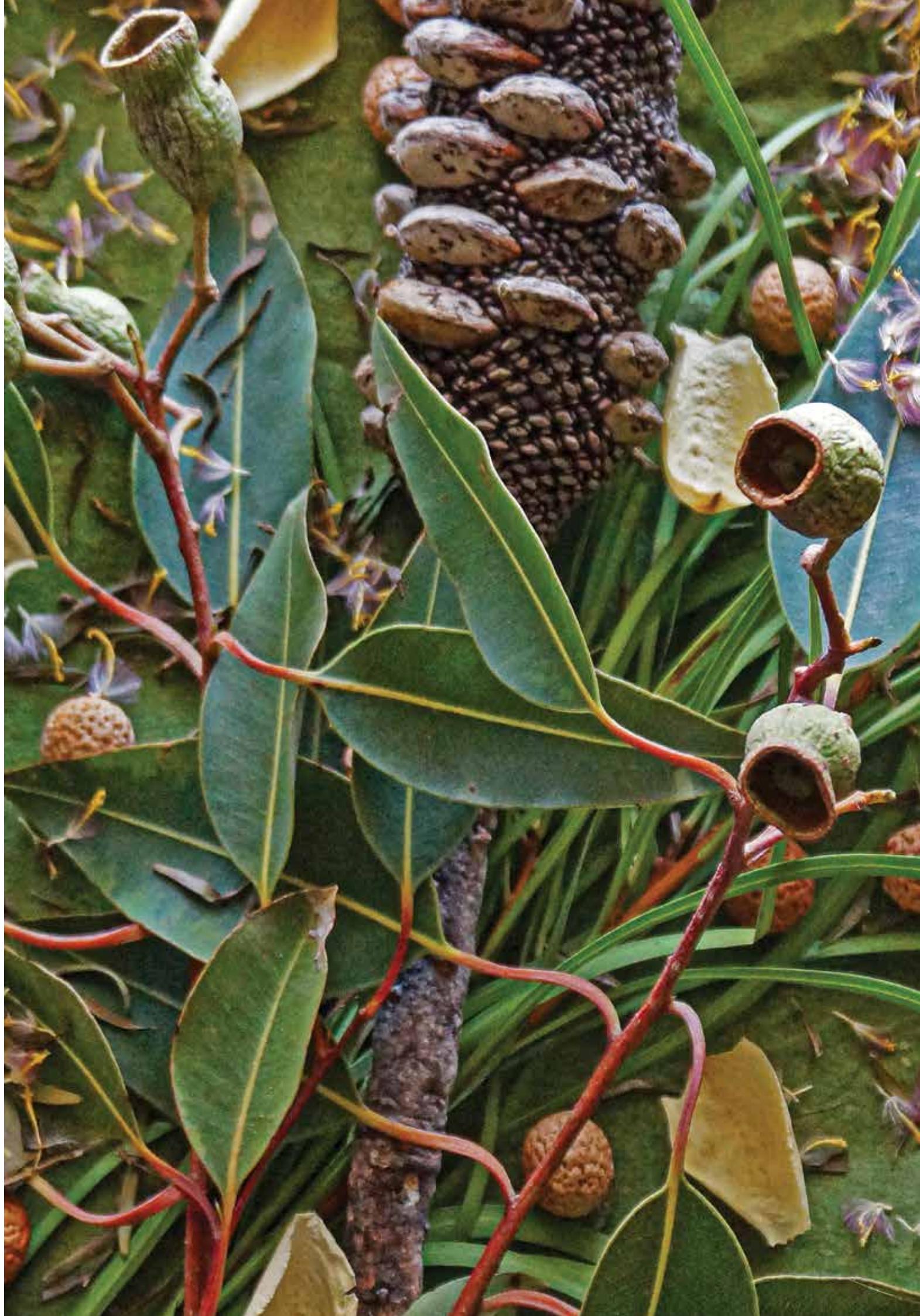
### Aromatic Enhancements in Flavour and Fragrance

Flavour and fragrance are integral aspects of human experiences, influencing our perceptions, emotions, and preferences. Essential oils serve as natural and authentic sources of aromatic compounds for crafting captivating fragrances and enhancing the taste profiles of various products. These oils infuse culinary creations, beverages, personal care items, and perfumes with distinct notes, resulting in multi-sensory encounters that engage and entice consumers.

### The Journey Ahead

As the world shifts towards natural and holistic approaches, essential oils find themselves in the spotlight, offering a blend of tradition and innovation. Their potential to elevate the sensory experiences of consumers, enrich the functionality of products, and the door to creating offerings that combine taste, aroma, and wellness in a harmonious package.





# MICROENCAPSULATED OREGANO ESSENTIAL OIL POWDER



Oregano essential oil, derived from the aromatic herb oregano, is a repository of numerous bioactive compounds, making it a valuable entity in the nutraceutical sector. Microencapsulation of oregano essential oil converts it into a powder form, enhancing its stability, shelf-life, and ease of incorporation into different products. This article explores the nutraceutical bioactive compounds, applications, and benefits of microencapsulated oregano essential oil powder.

## Nutraceutical Bioactive Compounds

Oregano essential oil is rich in bioactive compounds like carvacrol, thymol, and rosmarinic acid, which possess anti-microbial, anti-inflammatory, antioxidant, and anti-cancer properties. These compounds are significant contributors to human health

and wellness.

**Carvacrol:** Demonstrates antimicrobial activities against bacteria, fungi, and parasites. It can inhibit the growth of bacteria like *Escherichia coli* and *Bacillus subtilis*.

**Thymol:** Offers antioxidant properties and acts as a natural preservative, also demonstrating anti-bacterial and anti-fungal properties.

**Rosmarinic Acid:** Possesses anti-inflammatory and antioxidant capabilities, which can aid in reducing the symptoms of various conditions such as asthma and rheumatoid arthritis.

## Microencapsulation Process

Botanical's Breath's gentle microencapsulation process involves enveloping oregano essential oil droplets within a

coating material, converting liquid oil to powder form. This process preserves the oil's nutritional components, protects it from environmental factors such as light, heat, and oxygen, and improves its stability and shelf-life.

## Applications of Microencapsulated Oregano Essential Oil Powder

**Botanical's Breath**  
Microencapsulated oregano essential oil powder finds multifaceted applications owing to its versatile properties: Food Industry Utilized as a natural preservative and flavour enhancer in various food products, including baked goods, dairy products, and meat products, due to its antimicrobial and aromatic properties.

**Nutraceuticals and Pharmaceuticals:** Employed as a natural remedy and supplement for treating respiratory and

*“Oregano over 3000 years of medicinal and health wellness use. In ancient Greece Oregano was a symbol of joy, believed to ward off melancholy and bestow good fortune. The Egyptians valued oregano as both a preservative and a remedy against poison, while Greeks utilized oregano for both internal and external ailments, including skin afflictions, edema, seizures, and as a potent antidote to toxins. Traditional healers in China have long turned to oregano to address a myriad of health issues. During Shakespeare’s era, oregano was a panacea, often associated with bringing good luck and promoting wellness.”*

digestive ailments and boosting immune systems.

#### Cosmetics Industry:

Incorporated in skincare and haircare products due to its antioxidant and anti-inflammatory properties which aid in skin and hair health.

#### Benefits of Botanical’s Breath

Microencapsulated Oregano Essential Oil Powder

**Enhanced Stability and Shelf-life**  
Microencapsulation shields the oil from environmental factors, retaining its bioactive compounds and extending its shelf life.

**Improved Solubility** The powder form allows for better solubility and dispersion in formulations, compared to liquid oil.

**Convenient Handling and Dosage Control** Microencapsulated powder offers ease of handling and precise dosage control, aiding in its incorporation into various products.

#### Targeted Release

Microencapsulation allows for controlled and targeted release of bioactive compounds, optimizing their efficacy.

aiding in its incorporation into various products.

#### Targeted Release

Microencapsulation allows for controlled and targeted release of bioactive compounds, optimizing their efficacy.

#### Augmented Bioavailability

The encapsulation process can potentially enhance the bioavailability of the bioactive compounds, ensuring efficient absorption in the body.

#### Botanical’s Breath

Microencapsulated oregano essential oil powder is a potent source of nutraceutical bioactive compounds like carvacrol, thymol, and rosmarinic acid, offering a plethora of health benefits including antimicrobial, antioxidant, and anti-inflammatory properties. The microencapsulation process not only safeguards the intrinsic value of oregano essential oil but also enhances its application scope, enabling its incorporation in diverse industries like food, pharmaceuticals, and cosmetics.

The versatile applications and benefits of Botanical’s Breath Microencapsulated Oregano Essential Oil Powder make must

in diverse industries like food, pharmaceuticals, and cosmetics.

The versatile applications and benefits of Botanical’s Breath Microencapsulated Oregano Essential Oil Powder make must have ingredient for new and innovative health and wellness applications.





## *Lavandula*

# **MICROENCAPSULATED LAVENDER ESSENTIAL OIL**

Lavender essential oil, drawn from the beautiful lavender plant, is a well-known reservoir of health-enhancing bioactive compounds. With the advent of Botanical's Breath proprietary microencapsulation technology, it is now possible to convert lavender essential oil into powder form, securing its therapeutic properties, boosting its stability, and allowing its utilization in varied applications. This article delves into the nutraceutical bioactive compounds, diverse applications, and multifarious benefits of microencapsulated lavender essential oil powder.

## Nutraceutical Bioactive Compounds

Botanical's Breath Lavender essential oil powder is endowed with numerous bioactive compounds, including linalool, linalyl acetate, and camphor, which each confer distinctive therapeutic attributes.

Linalool: Exhibits anti-anxiety, anti-inflammatory, and antibacterial properties, and is renowned for its ability to alleviate stress and promote relaxation.

Linalyl Acetate: Possesses anti-inflammatory and antispasmodic properties, assisting in pain relief and muscle relaxation.

Camphor: Demonstrates anti-inflammatory, analgesic, and antispasmodic properties, contributing to relief from pain and inflammation.

*“Lavender flowers represent purity, silence, devotion, serenity, grace, and calmness.”*

### Botanical's Breath Microencapsulation Process

Microencapsulation is a technique wherein the delicate oil droplets of lavender essential oil are encased within a protective coating, transforming them into a stable powder form. This encapsulation shields the oil from environmental factors like light, oxygen, and moisture, preserving its bioactivity, prolonging its shelf-life, and enabling its inclusion in various formulations.

### Applications of Microencapsulated Lavender Essential Oil Powder

Due to its versatility and enhanced stability, Botanical's Breath Microencapsulated Lavender Essential Oil Powder is utilized across various applications.

**Food and Beverage Industry:**  
Employed as a flavouring agent, lending a floral, sweet flavour to foods and beverages.

**Pharmaceutical and Nutraceutical Industry:**  
Integrated into supplements and therapeutic products for its relaxation-inducing, anti-anxiety, and anti-inflammatory properties.

**Cosmetics and Skincare Industry:** Incorporated in beauty and skincare products for its skin-soothing, anti-inflammatory, and aromatic properties.



### Benefits of Botanical's Breath Microencapsulated Lavender Essential Oil Powder

**Enhanced Stability and Shelf-life:** Microencapsulation protects lavender essential oil from degradation, maintaining its bioactivity and extending its durability.

**Improved Solubility and Dispersion:** The powder form provides superior solubility and dispersion in various formulations, overcoming the limitations of the oil form.

**Convenient Handling and Dosage Precision:** The powder form is more user-friendly and facilitates accurate dosage, aiding its incorporation into a range of products.

**Controlled and Targeted Release:** Encapsulation allows for the designed release of bioactive compounds, enhancing their therapeutic efficacy at the desired location.

**Optimized Bioavailability:** The encapsulation potentially

heightens the bioavailability of bioactive compounds, ensuring effective assimilation and utilization by the body.

**Botanical's Breath**  
Microencapsulated lavender essential oil powder, rich in bioactive compounds like linalool, linalyl acetate, and camphor, offers a myriad of health benefits, including stress relief, relaxation induction, and anti-inflammatory effects.

Botanical's Breath proprietary microencapsulation technology magnifies the inherent advantages of lavender essential oil, ensuring its stability, improved solubility, and expanded applicability in food, pharmaceutical, and cosmetic industries. The wide-ranging applications and substantial benefits of microencapsulated lavender essential oil powder as a new nutraceutical ingredient for health and wellness applications.

# MICROENCAPSULATED PEPPERMINT ESSENTIAL OIL POWDER



Peppermint essential oil, extracted from the leaves of the peppermint plant, is lauded for its soothing and invigorating attributes, which are attributed to its wealth of bioactive compounds. Microencapsulation technology transforms peppermint essential oil into a versatile powder form, thus expanding its application range, maintaining its therapeutic value, and improving its stability. This article explores the nutraceutical bioactive compounds, diverse applications, and extensive benefits of microencapsulated peppermint essential oil powder.

## Nutraceutical Bioactive Compounds

Botanical's Microencapsulated Breath Peppermint Essential Oil Powder is endowed with a myriad of bioactive compounds including menthol, menthone, and limonene, each possessing distinctive therapeutic properties.

**Menthol:** Known for its cooling effect, menthol exhibits analgesic properties, alleviating pain and discomfort. It also has antimicrobial and anti-inflammatory attributes.

**Menthone:** Exhibits antispasmodic properties, aiding in reducing muscle spasms and has demonstrated antimicrobial and anti-inflammatory activities.

**Limonene:** It displays anti-inflammatory, antioxidant, and anti-cancer properties, promoting overall cellular health and immune response.

## Microencapsulation Process

Botanical's Breath proprietary Microencapsulation technology involves enclosing the liquid droplets of peppermint essential oil within a protective coating, transforming it into a stable powder. This protective layer shields the oil from environmental stressors such as light and oxygen, preserves its bioactivity, and enhances its shelf-life, rendering it more amenable to diverse formulations.

## Applications of Microencapsulated Peppermint Essential Oil Powder

The Botanical's Breath Microencapsulated Peppermint Essential Oil Powder, due to its stability and versatility, finds applicability across various sectors.

**Food and Beverage Industry:** Utilised as a flavouring agent and natural preservative, it imparts a refreshing mint flavour and extends the longevity of food products.

**Pharmaceutical and Nutraceutical Industry:** Incorporated in supplements and medicinal products for its pain-relieving, anti-inflammatory, and antimicrobial properties, it aids in digestive health and respiratory function.

**Cosmetic and Personal Care Industry:** Integrated into products for its refreshing aroma and cooling sensation, it is beneficial in oral care and skincare products.



## Benefits of Botanical's Breath Microencapsulated Peppermint Essential Oil Powder

**Essential Oil Powder**  
**Enhanced Stability and Shelf-life:** The encapsulation process protects the oil from degradation, ensuring prolonged bioactivity and usability.  
**Superior Solubility and Dispersion:** The powder form is more soluble and easily dispersible in various formulations as compared to liquid oil.

**Ease of Handling and Dosage**  
**Accuracy:** The powder form is convenient to handle and allows for precise dosage, facilitating its integration into varied products.  
**Controlled and Targeted Release:** Encapsulation allows for the regulated release of bioactive compounds, maximizing their therapeutic effect.

**Augmented Bioavailability:** The encapsulation may potentially enhance the absorption and efficacy of the bioactive compounds in the body.

**Botanical's Breath Microencapsulated Peppermint Essential Oil Powder** is a rich source of nutraceutical bioactive compounds like menthol, menthone, and limonene, offering a host of health benefits such as antimicrobial, analgesic, and anti-inflammatory effects. Microencapsulation amplifies the intrinsic benefits of peppermint essential oil by improving its stability, solubility, and applicability in the food, pharmaceutical, and cosmetic industries.

The myriad of applications and profound benefits of Botanical's Breath Microencapsulated Peppermint Essential Oil Powder underline its significance as a key ingredient in enhancing health and well-being for product developers and formulators.



# MICROENCAPSULATED FRANKINCENSE ESSENTIAL OIL POWDER



Frankincense essential oil, derived from the resin of the *Boswellia* tree, has been a revered entity in various traditions due to its rich array of bioactive compounds. Botanical's Breath proprietary microencapsulation technology has transformed frankincense essential oil into a stable, versatile powder form, expanding its application range and retaining its therapeutic essence. Herein, we explore the bioactive compounds, multifarious applications, and health benefits of microencapsulated frankincense essential oil powder.

## Nutraceutical Bioactive Compounds

Botanical's Breath Frankincense essential oil powder is imbued with a multitude of bioactive compounds including boswellic acids,  $\alpha$ -pinene, and limonene, each contributing unique therapeutic properties.

$\alpha$ -Pinene Possesses anti-inflammatory, antimicrobial, and bronchodilator properties, promoting respiratory health.

Limonene Demonstrates anti-inflammatory, antioxidant, and anti-cancer activities, aiding in maintaining cellular health.

Microencapsulation Process Botanical's Breath proprietary Microencapsulation of frankincense essential oil involves encasing the oil droplets within a suitable protective shell, converting it into powder form. This innovative process protects the oil from external degradation factors such as light and oxygen, while maintaining its bioactivity, prolonging its shelf-life, and

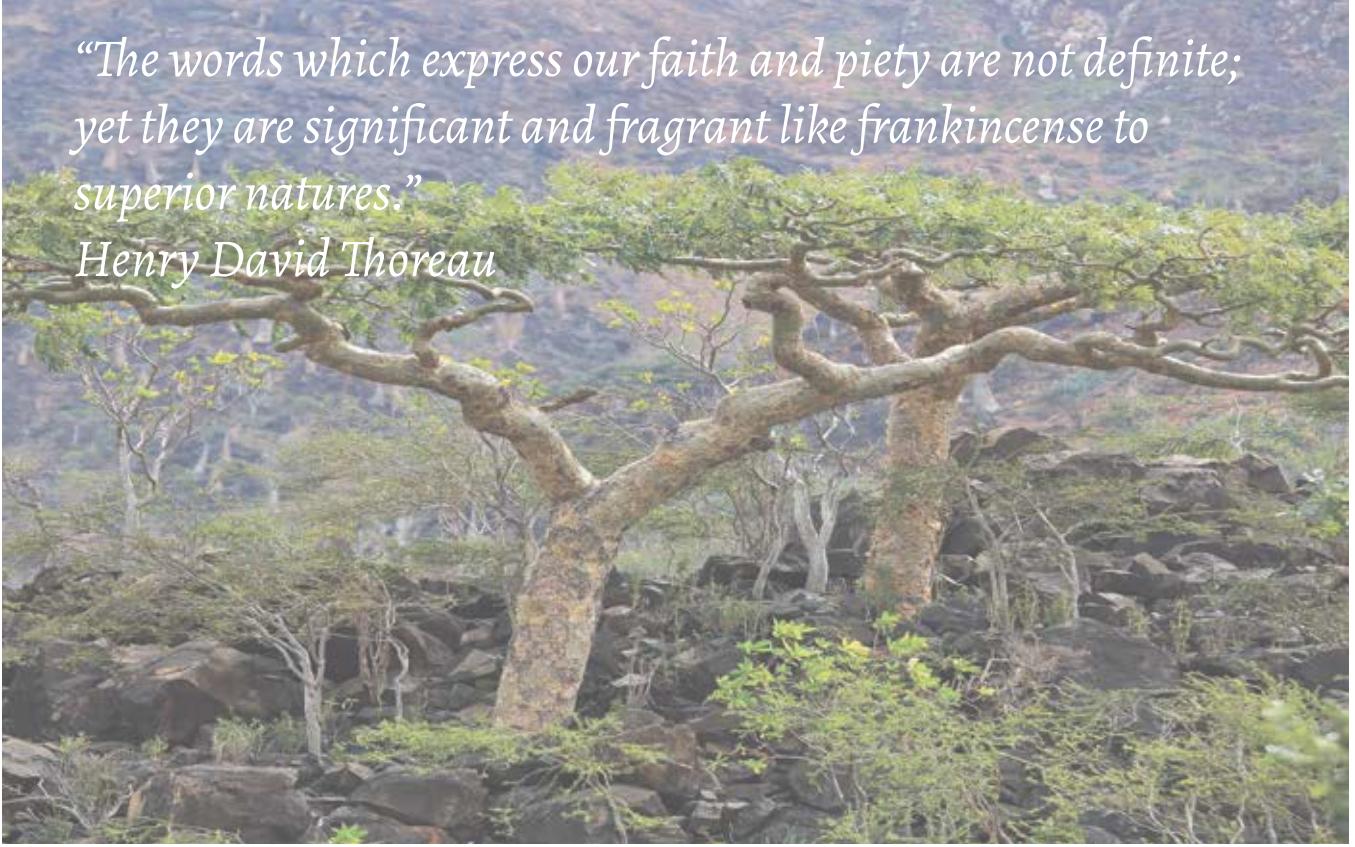
and facilitating its incorporation into varied formulations.

## Applications of Botanical's Breath Microencapsulated Frankincense Essential Oil Powder

Owing to its rich bioactive profile and enhanced stability, microencapsulated frankincense essential oil powder finds extensive applications in several domains.

Food and Beverage Industry As a flavour enhancer and a natural preservative, extending the shelf-life of perishable food products.

Nutraceutical and Pharmaceutical Industry In the formulation of dietary supplements and therapeutic products, targeting inflammation, cancer, and respiratory issues.



*“The words which express our faith and piety are not definite; yet they are significant and fragrant like frankincense to superior natures.”*

*Henry David Thoreau*

**Cosmetics and Personal Care Industry** Integrated into skincare and beauty products owing to its anti-inflammatory and anti-aging properties, contributing to skin health and rejuvenation.

**Benefits of Botanical's Breath Microencapsulated Frankincense Essential Oil Powder**

**Extended Stability and Shelf-life** The encapsulation shields frankincense oil from environmental degradation, ensuring longevity and sustained bioactivity.

**Enhanced Solubility and Dispersion** The powder form allows improved solubility and dispersion in various formulations compared to its liquid counterpart.

**Ease of Handling and Dosage Precision** Microencapsulated powder provides convenience in handling and allows precise

control over dosage, aiding its integration into diverse products.

**Controlled and Targeted Release Encapsulation** enables the regulated release of bioactive compounds at the targeted site, optimizing therapeutic efficacy.

**Boosted Bioavailability** The encapsulation can potentially elevate the bioavailability of the bioactive compounds, ensuring effective absorption and utilization by the body.

**Botanical's Breath Microencapsulated Frankincense Essential Oil Powder** is a treasure trove of nutraceutical bioactive compounds like boswellic acids,  $\alpha$ -pinene, and limonene, promising a spectrum of health benefits including anti-inflammatory, anti-cancer, and antimicrobial properties.

The proprietary microencapsulation process augments the intrinsic value of frankincense essential oil by enhancing its stability, solubility, and application versatility, paving the way for its incorporation in food, pharmaceuticals, and cosmetic products.

The extensive applications of Botanical's Breath Microencapsulated Frankincense Essential Oil Powder stand testament to its potential in advancing human health and wellness, driving further research and innovation in the field of nutraceuticals.





*Citru Limon*

# MICROENCAPSULATED LEMON ESSENTIAL OIL

Lemon Essential Oil, renowned for its refreshing aroma and myriad health benefits, is extracted from lemon peels and is rich in bioactive compounds. By leveraging Botanical's Breath microencapsulation technology, lemon essential oil has been transformed into a versatile powder form, enhancing its utility, stability, and effectiveness in various applications. This article delves into the nutraceutical bioactive compounds, extensive applications, and myriad benefits of microencapsulated lemon essential oil powder.

## Nutraceutical Bioactive Compounds

Botanical's Breath Lemon essential oil contains several bioactive compounds, primarily limonene, citral, and  $\alpha$ -pinene, each bringing forth distinct therapeutic properties.

**Limonene** Showcases anti-inflammatory, antioxidant, and anti-cancer properties, promoting cellular health and immune system function.

**Citral** Exhibits antimicrobial and anti-inflammatory activities, proving effective against a range of bacterial and fungal strains.

**$\alpha$ -Pinene** Offers anti-inflammatory, antimicrobial, and bronchodilator properties, contributing to respiratory health.

**Microencapsulation Process**  
Botanical's Breath gentle proprietary Microencapsulation involves enclosing lemon essential oil droplets within a protective shell, rendering it into a stable powder form. This process provides protection against environmental factors such as light, air, and moisture, ensuring the preservation of the oil's bioactive compounds, enhancing its shelf-life, and allowing easier incorporation into various formulations.

### Applications of Microencapsulated Lemon Essential Oil Powder

The stability and versatility of Botanical's Breath microencapsulated lemon essential oil powder make it highly suitable for multiple industries:

**Food and Beverage Industry**  
It can serve as a flavouring agent, natural preservative, and antioxidant in food and drink products, adding a refreshing lemon taste and extending product shelf-life.

**Pharmaceutical and Nutraceutical Industry** It's used in the formulation of supplements and medications aimed at enhancing immune function, reducing inflammation, and combating microbial infections.

**Cosmetics and Skincare Industry**  
Incorporated in products for its refreshing scent, skin-brightening properties, and its ability to combat skin-related microbial infections.

### Benefits of Botanical's Breath Microencapsulated Lemon



#### Essential Oil Powder

**Enhanced Stability and Shelf-life**  
Microencapsulation safeguards lemon essential oil from external detrimental factors, maintaining its bioactivity and extending its usability period.

**Improved Solubility and Dispersion** The conversion to powder form allows better solubility and dispersion in different formulations, overcoming the limitations of the oil form.

**Convenient Handling and Accurate Dosage** The powder form facilitates easy handling and enables precise dosage, promoting its incorporation into a diverse range of products.

**Controlled and Targeted Release** Microencapsulation allows for the tailored release of bioactive compounds, ensuring optimal efficacy at the targeted site.

**Increased Bioavailability**  
Encapsulation can enhance the absorption and utilization of the bioactive compounds within the body.

**Botanical's Breath Microencapsulated Lemon Essential Oil Powder** is a potent source of beneficial bioactive compounds like limonene, citral, and a-pinene, offering a plethora of health benefits including antimicrobial, anti-inflammatory, and antioxidant properties. The gentle process of microencapsulation accentuates the inherent virtues of lemon essential oil, granting it increased stability, enhanced solubility, and broadened application spectrum in the food, pharmaceutical, and cosmetic industries. The myriad applications and considerable benefits of Botanical's Breath Microencapsulated Lemon Essential Oil powder set it apart as a multifunctional ingredient in promoting health and wellness, thereby steering the advancements in the field of nutraceuticals.



# MICROENCAPSULATED GINGER ESSENTIAL OIL POWDER



Ginger essential oil, extracted from the ginger root, is esteemed for its multifaceted health-promoting properties, stemming from its wealth of bioactive compounds. The advent of microencapsulation technology has enabled the transformation of ginger essential oil into a versatile powder form, preserving its therapeutic essence, improving its stability, and allowing for a diversified range of applications.

## Nutraceutical Bioactive Compounds

Botanical Innovations Ginger Essential Oil Powder is laden with a plethora of bioactive compounds, notably gingerol, zingiberene, and a-zingiberene, each imparting unique therapeutic attributes.

**Gingerol:** Exhibits anti-inflammatory, antioxidant, and anti-cancer properties, and is known for its role in alleviating nausea and improving digestion.

**Zingiberene:** Possesses anti-inflammatory, antimicrobial, and antioxidant activities, contributing to overall health and well-being.

**a-Zingiberene:** Demonstrates anti-ulcer, anti-inflammatory, and antimicrobial properties, aiding in gastrointestinal health.

## Microencapsulation Process

Botanical Innovations proprietary microencapsulation of ginger essential oil entails encasing the oil droplets within a protective shell, converting it into a stable powder form. This process safeguards the oil from environmental factors such as light, air, and moisture, ensuring the retention of its bioactivity,

enhancing its shelf-life, and facilitating its incorporation into diverse formulations.

**Applications of Botanical's Breath Microencapsulated Ginger Essential Oil Powder**  
Owing to its enhanced stability and versatility, microencapsulated ginger essential oil powder finds applications across various sectors.

**Food and Beverage Industry:** As a flavour enhancer and a natural preservative, adding a spicy and aromatic flavour to foods and beverages, and extending shelf-life.

**Pharmaceutical and Nutraceutical Industry:**  
In the formulation of dietary supplements and therapeutic products targeting inflammation, digestive issues, microbial infections, and cancer.



**Cosmetics and Personal Care Industry** Integrated into skincare and beauty products owing to its anti-inflammatory and anti-aging properties, contributing to skin health and rejuvenation.

#### Benefits of Botanical's Breath Microencapsulated Frankincense Essential Oil Powder

**Extended Stability and Shelf-life** The encapsulation shields frankincense oil from environmental degradation, ensuring longevity and sustained bioactivity.

**Enhanced Solubility and Dispersion** The powder form allows improved solubility and dispersion in various formulations compared to its liquid counterpart.

**Ease of Handling and Dosage Precision** Microencapsulated powder provides convenience in handling and allows precise

control over dosage, aiding its integration into diverse products.

**Controlled and Targeted Release** Encapsulation enables the regulated release of bioactive compounds at the targeted site, optimizing therapeutic efficacy.

**Boosted Bioavailability** The encapsulation can potentially elevate the bioavailability of the bioactive compounds, ensuring effective absorption and utilization by the body.

**Botanical's Breath Microencapsulated Ginger Essential Oil Powder**, with its rich profile of bioactive compounds like gingerol, zingiberene, and a-zingiberene, offers a spectrum of health benefits including anti-inflammatory, antioxidant, and anti-cancer properties.

The microencapsulation process augments the inherent value of ginger essential oil, ensuring its stability, solubility, and adaptability in the food, pharmaceuticals, and cosmetic products.

The widespread applications and profound benefits of Botanical's Breath Microencapsulated Ginger Essential Oil Powder make it an essential nutraceutical ingredient for health and wellness applications.



# MICROENCAPSULATED TURMERIC ESSENTIAL OIL POWDER

Turmeric essential oil, derived from the turmeric root, is a treasure trove of bioactive compounds with significant health-enhancing properties. Through microencapsulation technology, turmeric essential oil can be transformed into a versatile powder, maintaining its therapeutic integrity, improving stability, and allowing for a plethora of applications.

## Nutraceutical Bioactive Compounds

Botanical's Breath Turmeric Essential Oil Powder is rich in bioactive compounds, primarily ar-turmerone, curcune, and zingiberene, each contributing specific therapeutic benefits.

**Ar-Turmerone:** Demonstrates anti-inflammatory, neuroprotective, and anti-cancer properties, aiding in cellular health and cognitive function.

**Curcune:** Exhibits antimicrobial, anti-inflammatory, and antioxidant activities, helping in combating infections and oxidative stress.

**Zingiberene:** Possesses anti-inflammatory, antibacterial, and antioxidant properties, contributing to overall well-being and health.



## Applications of Botanical's Breath Microencapsulated Turmeric Essential Oil Powder

Due to its enhanced stability and versatility, microencapsulated turmeric essential oil powder is employed across various domains.

**Food and Beverage Industry**  
Used as a natural flavour enhancer, colouring agent, and preservative, it enriches foods and beverages with its distinct taste and colour and extends their shelf-life.

**Pharmaceutical and Nutraceutical Industry**  
Implemented in supplements and medicinal formulations aimed at reducing inflammation, preventing infections, and improving overall health.

**Cosmetics and Skincare Industry**  
Incorporated into beauty and skincare products for its anti-aging, skin-brightening, and anti-inflammatory effects.

**Botanical's Breath Microencapsulated Ginger Essential Oil Powder**, with its rich profile of bioactive compounds like gingerol, zingiberene, and a-zingiberene, offers a spectrum of health benefits including anti-inflammatory, antioxidant, and anti-cancer properties.

The microencapsulation process augments the inherent value of ginger essential oil, ensuring its stability, solubility, and adaptability in the food, pharmaceuticals, and cosmetic products.

The widespread applications and profound benefits of Botanical's Breath Microencapsulated Ginger Essential Oil Powder make it an essential nutraceutical ingredient for health and wellness applications.

# MICROENCAPSULATED CINNAMON ESSENTIAL OIL POWDER



A Cinnamon essential oil, procured from the bark or leaves of the cinnamon tree, is a reservoir of health-enhancing bioactive compounds. The innovation of microencapsulation technology has enabled the transformation of cinnamon essential oil into a versatile powder form, securing its therapeutic essence, elevating its stability, and broadening its application horizon. This article delves into the nutraceutical bioactive compounds, varied applications, and substantial benefits of microencapsulated cinnamon essential oil powder.

## Nutraceutical Bioactive Compounds

Botanical's Breath Cinnamon Essential Oil Powder is enriched with a myriad of bioactive compounds including cinnamaldehyde, eugenol, and linalool, each contributing unique health-promoting properties.

**Cinnamaldehyde:** Possesses anti-inflammatory, antimicrobial, and anti-diabetic properties and is pivotal for regulating blood sugar levels and combatting infections.

**Eugenol:** Demonstrates antioxidant, anti-inflammatory, and antiseptic properties, playing a significant role in relieving pain and preventing oxidative stress.

**Linalool:** Exhibits anti-anxiety, anti-inflammatory, and analgesic properties, contributing to stress relief and overall well-being.

## Applications of Microencapsulated Cinnamon Essential Oil Powder

Owing to its stability and versatility, Botanical's Breath Microencapsulated Cinnamon Essential Oil Powder finds extensive applications across various sectors.

Pharmaceutical and Nutraceutical Industry Incorporated into supplements and medicinal products for its potential in managing blood sugar levels, reducing inflammation, and preventing infections.

Cosmetics and Personal Care Industry Included in products for its pleasant aroma, and its skin-rejuvenating and antimicrobial properties.

Botanical's Breath proprietary Microencapsulated cinnamon essential oil powder, with its rich constellation of bioactive compounds like cinnamaldehyde, eugenol, and linalool, brings forth a range of health benefits including antimicrobial, anti-inflammatory, and antioxidant effects. The microencapsulation not only amplifies the inherent benefits of cinnamon essential oil by ensuring its stability, solubility, and broad applicability in the food, pharmaceutical, and cosmetic industries but also paves the way for innovative health and wellness solutions.

The comprehensive applications and notable benefits of Botanical's Breath Microencapsulated cinnamon essential oil powder highlight its substantial potential in advancing health and wellness and signify its importance in the evolving sphere of nutraceuticals.



# BENEFITS OF MICROENCAPSULATED ESSENTIAL OIL POWDER

Advantages of Botanical's Breath  
Microencapsulated Essential Oils  
in Nutraceutical Applications  
Botanical's Breath

Microencapsulated Essential Oils offer a host of benefits when incorporated into nutraceutical products:

Enhanced Stability  
Microencapsulation Essential Oils are shielded from light, heat, and moisture, preserving their potency and extending shelf life.

Controlled Release  
Microencapsulated Essential Oils can be designed to release gradually, ensuring a sustained and consistent sensory or therapeutic experience.

Improved Solubility  
Essential oils that are traditionally hydrophobic can be made water-compatible through Botanical's Breath proprietary Microencapsulation, enabling their incorporation into a



#### Customization

Microencapsulation allows for tailoring essential oil release profiles, aligning with specific product requirements and user preferences.

#### Targeted Delivery

The ability to customize release profiles permits targeted delivery of essential oils to specific parts of the body, optimising efficacy.

#### Sensory Enhancement

Microencapsulated essential oils contribute to improved sensory experiences, enhancing taste, aroma, and overall product appeal.

#### Bioavailability Boost

Microencapsulation technology can potentially enhance the absorption and bioavailability of essential oil compounds, maximising their health benefits.

#### Innovation Opportunities

Microencapsulated essential oils open doors for innovative formulations, enabling the creation of unique, differentiated nutraceutical products.

#### Compliance and Labelling

Utilising microencapsulation helps comply with safety assessments and regulatory requirements, ensuring transparent and accurate product labelling.

#### Incorporating Botanical's Breath

Microencapsulated Essential Oils into nutraceutical applications provides manufacturers with a versatile tool to elevate product quality, efficacy, and consumer satisfaction. This technology enhances stability, solubility, taste, and customization possibilities, making it a compelling choice for enhancing the overall value of nutraceutical offerings.

Now is the time to seize the advantage that Botanical's Breath Microencapsulated Essential Oil Powders offer.





# BOTANICAL'S BREATH PRODUCTS

Ajowan Oil Powder	Eucalyptus Oil Citriodora Powder	Palmarosa Oil Powder
Amber Oil Powder	Fennel Oil Powder	Parsley Seed Oil Powder
Ambrette Seed Oil Powder	Fir Needle Oil Powder	Patchouli Oil Powder
Amyris Oil Powder	Frankincense Oil Powder	Pepper Oil - Black Powder
Angelica Root Oil Powder	Galbanum Oil Powder	Peppermint Oil Arvensis
Anise Star Oil Powder	Garlic Oil Powder	Powder
Aniseed Oil Powder	Geranium Oil Powder	Peppermint Oil Piperita
Armoise Oil Powder	Ginger Oil Powder	Powder
Balsam Peru Oil Powder	Grapefruit Oil Powder	Pettigrain Oil Powder
Basil Oil Powder	Guaicwood Oil Powder	Pine Needle Oil Powder
Bay Oil Powder	Helichrysum Oil Powder	Pine Oil Powder
Benzoin Oil Powder	Holy Basil Oil Powder	Ravensara Oil Powder
Betal Leaf Oil Powder	Ho Wood Oil Powder	Rose Otto Powder
Bergamot Oil Powder	Hyssop Oil Powder	Rosemary Oil Powder
Buddha Wood Oil Powder	Inula Oil Powder	Rosewood Oil Powder
Cajaput Oil Powder	Juniperberry Oil Powder	Sage Oil Powder
Calamus Root Oil Powder	Labdanum Oil Powder	Sandalwood Oil Powder
Camphor Oil Powder	Lavender Oil Powder	Spearmint Oil Powder
Cananga Oil Powder	Lemon Oil Powder	Spikenard Oil Powder
Cardamom Oil Powder	Lemongrass Oil Powder	Spruce Oil Powder
Carrot Seed Oil Powder	Lime Oil Powder	Tagettes Oil Powder
Cedarwood Oil Powder	Litsea Cubeba Oil Powder	Tangerine Oil Powder
Celery Seed Oil Powder	Mandarin Oil Powder	Tarragon Oil Powder
Chamomile Oil Powder	Mango Ginger Oil Powder	Thyme Oil – Lemon
Champaka Oil Powder	Manuka Oil Powder	Powder
Cinnamon Bark Powder	Marjoram Oil (Sweet) Powder	Thyme Oil (White) Powder
Cinnamon Leaf Oil Powder	Marjoram Oil Spanish Powder	Thyme Oil (Red) Powder
Citronella Oil Powder	Melissa Oil Powder	Tumeric Oil Powder
Clary Sage Oil Powder	Myrrh Oil Powder	Valerian Root Oil Powder
Clove Bud Oil Powder	Myrtle Oil Powder	Verbena Lemon Oil Powder
Clove Leaf Oil Powder	Neroli Oil Powder	Vetiver Oil Powder
Coriander Seed Oil Powder	Niaouli Oil Powder	Wintergreen Oil Powder
Cumin Seed Oil Powder	Nutmeg Oil Powder	Yarrow Oil Blue Powder
Cypress Oil Powder	Orange Oil - (Bitter) Powder	Ylang Ylang Oil Powder
Davana Oil Powder	Orange Oil - (Sweet) Powder	
Dill Seed Powder	Oregano Oil Powder	
Elemi Oil Powder	Oud Oil Powder	
Eucalyptus Oil Powder		





Botanical's Breath is part of the Botanical Innovations Group a world leader in the microencapsulation of nutraceutical flavours, fragrances and ingredients.

The company's core products include oils, essential oils, plant extracts, apple cider vinegar and zero alcohol wine powders.

Talk to us E: [admin@botanicalinnovations.com.au](mailto:admin@botanicalinnovations.com.au)

Visit us: [www.botanicalinnovations.com.au](http://www.botanicalinnovations.com.au)  
[www.botanicalsbreath.com.au](http://www.botanicalsbreath.com.au)

