

# MICROENCAPSULATED ESSENTIAL OIL POWDERS

BOTANICAL'S BREATH



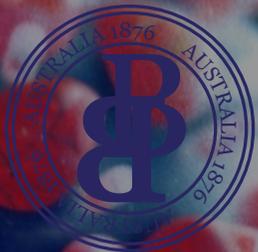
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# MICROENCAPSULATION

What is Microencapsulation?

Botanical's Breath proprietary process where essential oils, are coated with a protective layer.

Protection for active ingredients from environmental factors, improves stability, and allows controlled release.



# TECHNOLOGICAL ADVANTAGES

## Why Microencapsulate Essential Oils?

**Improved Stability:** Protects oils from degradation (oxidation, evaporation, light exposure).

**Enhanced Solubility:** Converts oils into easily dispersible powders suitable for dry formulations.

**Controlled Release:** Enables targeted and timed release in the body or on the skin.

**Masking Odor/Taste:** Reduces the strong, sometimes unpleasant aroma or taste of essential oils.



# NUTRACEUTICAL APPLICATIONS

## Benefits in Nutraceuticals

**Enhanced Bioavailability:** Essential oils can be released in the digestive tract for optimal absorption.

**Improved Shelf-life:** Microencapsulation stabilizes volatile compounds in supplements.

**Synergistic Effects:** Combined with other nutraceutical ingredients (vitamins, minerals) for increased efficacy.

**Example:** Encapsulated oregano oil powder for immune support supplements.



# FUNCTIONAL FOODS & BEVERAGES

## Applications in Functional Foods and Beverages

**Uniform Distribution:** Powdered form enables even mixing in dry mixes or liquid solutions.

**Retention of Flavour and Potency:** Microencapsulation prevents essential oil flavour degradation in high-temperature processing.

**Customization:** Controlled release ensures active ingredients remain effective until digestion.

Example: Encapsulated citrus oil in functional foods for antioxidant properties.



# BEAUTY & PERSONAL CARE APPLICATIONS



## Beauty & Personal Care Applications

### Benefits in Beauty & Personal Care Products

**Longer-lasting Effects:** Controlled release improves the sustained efficacy of essential oils in skincare products

**Improved Formulation Stability:** Reduces oil separation and enhances product shelf-life.

**Gentler on Skin:** Encapsulation can decrease the risk of skin irritation by delivering smaller, sustained doses.

**Example:** Encapsulated lavender oil powder in anti-aging creams for soothing and antioxidant properties.



# MARKET POTENTIAL AND CONSUMER TRENDS

## **Rising Demand and Market Growth**

Growing consumer interest in clean label, natural, and functional products.

Essential oils are popular due to perceived health benefits and natural fragrance.

Microencapsulation aligns with the trend toward convenience, enhanced performance, and product longevity in nutraceuticals, foods, and beauty products.



# KEY TAKEAWAYS

## Key Takeaways

Microencapsulation is a powerful tool to enhance the stability, bioavailability, and efficacy of essential oils.

Its applications in nutraceuticals, functional foods, beverages, and beauty products meet current market demands.

Botanical's Breath microencapsulated essential oil powders offer innovative potential for the delivery of health benefits in a stable, convenient format.



# CASE STUDY: Microencapsulated Citrus Oil Powder in Functional Beverages

## Overview:

Citrus oils (orange, lemon, lime) are rich in flavonoids, which provide antioxidant and antimicrobial benefits. However, they are highly volatile and degrade quickly when exposed to heat, light, and air.

## Application:

**Product Type:** Functional powdered beverage mixes with immune-boosting properties.

## Encapsulation Benefits:

- **Improved Stability:** Botanical's Breath Citrus oil microencapsulated powders maintain antioxidant properties over a long storage period.
- **Enhanced Solubility:** Water-soluble citrus oil powder mixes easily into beverages without leaving an oily residue.
- **Masking Flavour:** Microencapsulation reduces the strong citrus odour, making it more palatable in drinks.

## Outcome:

Botanical's Brath citrus oil powder extended the shelf life of the product and provided a controlled release of active compounds, enhancing consumer experience and efficacy.



# CASE STUDY 2: Microencapsulated Peppermint Oil Powder in Nutraceuticals



## Case Study 2: Botanical's Breath Microencapsulated Peppermint Oil Powder in Nutraceuticals

### Overview:

Peppermint oil is well-known for its digestive and respiratory benefits but degrades easily due to its volatile components.

### Application:

**Product Type:** Digestive health supplements in capsule form.

### Encapsulation Benefits:

**Controlled Release:** Microencapsulation allowed for targeted release in the intestinal tract, where peppermint oil is most effective for soothing digestive discomfort.

**Improved Shelf-life:** Encapsulation increased the stability of peppermint oil, preventing oxidation and maintaining potency over time.

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# CASE STUDY 3: Microencapsulated Lavender Oil Powder in Beauty and Skincare Products

## Case Study 3: Microencapsulated Lavender Oil Powder in Beauty and Skincare Products

### Overview:

Lavender oil is used in beauty products for its calming, anti-inflammatory, and antioxidant properties, but it is prone to oxidation, which can reduce its efficacy and fragrance quality.

### Application:

**Product Type:** Anti-aging night creams and soothing lotions.

### Encapsulation Benefits:

**Sustained Release:** Microencapsulation powder allowed the gradual release of lavender oil over time, enhancing its calming and anti-inflammatory effects on the skin.

**Increased Stability:** Encapsulation protected lavender oil from degradation caused by exposure to light and air, improving product shelf-life and consistency.

# TALK TO US

Botanical's Breath is a division of the Botanical Innovations Group.

An Australian manufacturer of nutraceutical Flavours, Fragrances and Ingredients for health and wellness applications

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