Control Release

Structuration

Active Preservation

Taste Masking

Oil Microencapsulation

Traditional Drying Technologies & Challenges

High Energy Cost

Inlet

High Temperatures

Freeze Drying

Long Production Cycle

Less Shelf Life

Batch Process

Loss of Volatile

Low Oil Yield

PolarDry© Electrostatic Spray Dryer Difference

Apply electrostatic charge to the spray, driving solvent to the outer surface of the droplet.

Increase Oil Load

Observed 70% vs. 40% - Vegetable Oil

Observed 50% vs 25% - Essential Oil

Improved Shelf Life

Observed 24 months vs. 6 months

Reduced Active Evaporative Loss

Observed 3% vs. 15%

Inlet Temperature Down

Observed 59% decrease from 220°C to 90°C with the same yield
### PolarDry© Electrostatic Spray Dry Comparison

<table>
<thead>
<tr>
<th>Water Activity</th>
<th>PolarDry© Electrostatic</th>
<th>Spray Drying</th>
<th>Freeze Drying</th>
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</table>

The red points to the microencapsulation’s surface oil.

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