

Liquid CO₂-Assisted Fine-Mist Atomization of Oil-Based Ingredients

High-Concentration, Uniform, Low-Temperature Spray Processing

Overview

This technology provides an apparatus and method for atomizing oil-based components. A feed formulation containing oil-based components that are soluble or dispersible in liquid CO₂ is mixed with liquid CO₂ under subcritical temperature and high-pressure conditions to form a homogeneous phase based on phase equilibrium. The homogeneous phase is then depressurized through a nozzle to generate a fine mist. The technology enables the fine atomization of oil-based components and may also be applied to the selective extraction, concentration, and recovery of CO₂-soluble oil components from a feed formulation.

- ◎ **High-Concentration Handling of Oil-Based Formulations**
- ◎ **Fine and Uniform Mist Generation**
- ◎ **Low-Temperature Processing**
- ◎ **Selective Extraction, Concentration, and Recovery**

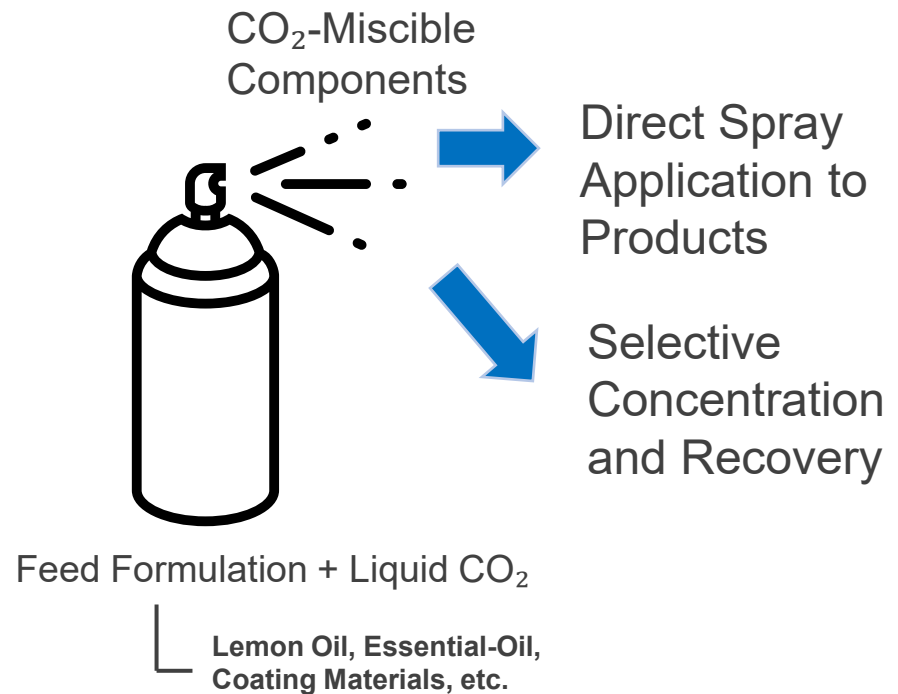
Product Application

- ❑ Cosmetics and Personal Care
- ❑ Home Care and Air Care
- ❑ Food and Beverages
- ❑ Functional Coatings

IP Data

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Conceptual Diagram



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