



# phaseex

The Supercritical Fluids People

**NATURAL PRODUCTS:  
CO<sub>2</sub> EXTRACTIONS, PURER PRODUCTS**



## Phaseex Is Helping Customers in the Natural Products Industry

- Develop technically superior final products in a more environmentally conscious manner
- Solve unique extraction, fractionation, purification/remediation, and separation challenges
- Reduce investment for new products by using Phaseex as contract manufacturer
- Provide contract manufacturing services, running certified-USDA Organic toll processing
- Reduce or eliminate the harsh and toxic solvents currently used in typical extractions



## Versatile CO<sub>2</sub> Tolling Facility Scientific & Professional

Our specially designed 30,000-square-foot facility in North Andover, MA houses multiple CO<sub>2</sub> extraction plants positioned in individual clean room suites, making it the most versatile and comprehensive CO<sub>2</sub> extraction facility in North America.

- Full compliant and third-party audited for cGMP operation under CFR 111 and 117
- Kosher and USDA-Certified Organic third-party certifications

## Benefits of Using Supercritical CO<sub>2</sub> for Natural Products Extracts

- Solvent-free extracts: extracts and the spent biomass are free of solvent residues
- Mild operating temperatures ensure product stability and quality
- Pressure-dependent properties of supercritical CO<sub>2</sub> can lead to technically superior, highly concentrated ingredients
- Higher efficiencies lead to increased yields of superior quality ingredients
- Complete CO<sub>2</sub> recycle is accomplished without distillation through simple pressure reduction and recompression
- Lower overall costs are realized with supercritical fluid extraction: single-step process, no solvent disposal costs, higher yields, and superior products





## Why Supercritical CO<sub>2</sub>

### Working Towards a Greener, Cleaner Future

Our mission is to replace traditional solvent extraction processes with supercritical CO<sub>2</sub> technology and move the world towards a more environmentally conscious and cleaner future. Supercritical fluid solvents are environmentally friendly and recyclable. There are no hazardous waste streams, no harsh organic chemicals or residues, and the gaseous solvent is recyclable.

Many common lifestyle products have been improved by supercritical CO<sub>2</sub>, having an impressive industrial track record of processing hundreds of millions of pounds per year of the following natural products:

- Better tasting decaffeinated coffee and tea
- Rich hops extract flavors for brewing beer
- Aromatic herbs and spice extracts for flavoring foods

We have run thousands of successful large-scale, solvent-free processing programs for natural products; some examples include astaxanthin-rich oleoresin, phytosterols-concentrated extracts, and USDA-Certified Organic whole plant hemp extracts with a high percentage of purified cannabinoids.

What botanical extracts and actives can PhaseX help you with?

### The PhaseX Advantage

- Technical expertise based on four decade pioneering supercritical CO<sub>2</sub> extraction (SFE) applications
- Performed thousands of feasibility studies, R&D, and toll processing projects—extraction, fractionation, purification, remediation, and chromatography—on hundreds of different substrates
- Team of problem-solving chemical engineers, chemists, and technical specialists providing solutions for difficult separation and purification problems
- Unique ability to scale technically superior supercritical CO<sub>2</sub> process from lab-scale to commercial-scale
- cGMP, Organic, Kosher certifications
- Proven co-solvent capabilities to supplement CO<sub>2</sub> extractions
- Professional, proven expertise with strong & flexible customer focus

### Exploring SCF for Your Business

Curious about how SCF CO<sub>2</sub> processing can help you meet your natural product extract goals? We're happy to discuss a feasibility assessment with you about your supercritical fluid needs. Contact us today to begin the conversation.



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