

MERCURIAL STRAIN SPECIFIC FULL BOTANICAL OIL EXTRACTION METHODOLOGY

GROW METHODOLOGY

To truly appreciate where our oil-based products originate from you need to understand our grow methodology.

The team at Mercurial believe in the healing powers of cannabis and its potential as a wonder drug treating and managing a wide variety of modern ailments.

Following this belief, we have adopted a grow methodology staying as close to nature as possible, while maintaining stringent standards and procedures in line with international pharmacopeia.

Our water source on the farm is from an ancient artisanal well 120m below the surface, ensuring an abundant supply, requiring only particle filtration, fed direct to the plants through our state-of-the-art fertigation system. Naturally occurring, beneficial minerals and trace elements found in the water forming part of the nutritional base fed daily to our plants.

Propagation, by way of our indoor clone and mother rooms prepare the plants for long sunny days in our high tech grow tunnels, taking advantage of natural sunlight, which cannot be replicated by artificial light, and reducing our carbon footprint. Plants are grown in an inert natural medium, free of pathogens, in strictly controlled natural climatic conditions ensuring that the plants grow to their full potential, producing cannabinoid rich buds as nature intended.

Our IPM regime follows this same methodology, making use of companion pests, predatory mites and nematodes, that free range the plant canopy and root structures respectively, consuming all unwanted pests, negating the use of harmful pesticides that degrade the crop and damage the environment.

Take away: organic, clean growing

OIL PRODUCTION

Mercurial are proudly cGMP certified to extract full spectrum strain specific cannabis oils and to manufacture oil-based cannabis products.

Our oil processing technology has been developed to complement our growing methodology. Our single station full botanical extraction skid is designed to focus on the terpenes, flavonoids, aromatics, and a list of other beneficial compounds as well as the full cannabinoid profile.

As cannabis occurs in a multitude of strains, each with a very specific “fingerprint” we believe that strain specific full spectrum extractions unlock not only the full medical benefits of cannabis, but a full, rich flavoured, aromatic experience for the discerning consumer.

The benefits of not using critically high temperatures or pressures allow the full profile extraction of compounds that have low flash points, terpenes, and flavonoids specifically, lost during traditionally adopted extraction methods.

TECHNOLOGY

Low Pressure Extraction (LPE) Using Tetrafluoroethane (TFE)

1. Overview

Low Pressure Extraction (LPE) is an extraction methodology that employs tetrafluoroethene (TFE) as the primary solvent to isolate target compounds from raw materials. The process is designed to operate under reduced pressure and temperature conditions to preserve the integrity of sensitive compounds while optimizing efficiency.

2. Solvent Selection

TFE is selected as the extraction solvent due to its high chemical inertness, low decomposition potential under standard operating conditions, and availability in high-purity, large-scale production.

3. Operating Conditions

The extraction process is conducted at significantly lower pressures and temperatures compared to conventional carbon dioxide (CO₂) systems. These reduced operating conditions allow for:

- Simplified equipment design
- Lower energy consumption
- Enhanced process safety

4. Extraction Process

Raw material is loaded into the extraction vessel, where TFE is introduced under controlled low-pressure conditions. Due to its relatively higher polarity at lower pressures, TFE selectively dissolves target compounds, particularly those sensitive to heat and pressure.

The extraction parameters (pressure, temperature, and flow rate) are optimized depending on the composition of the starting material and the desired output. The selective solvating properties of TFE minimize the co-extraction of undesired components, mitigating the need for downstream purification.

5. Separation and Recovery

Following extraction, the solvent is separated from the extracted compounds through controlled depressurization and/or phase separation. Due to TFE's volatility and stability, it can be efficiently recovered and recycled within the system, further improving process economics and sustainability.

6. Product Integrity

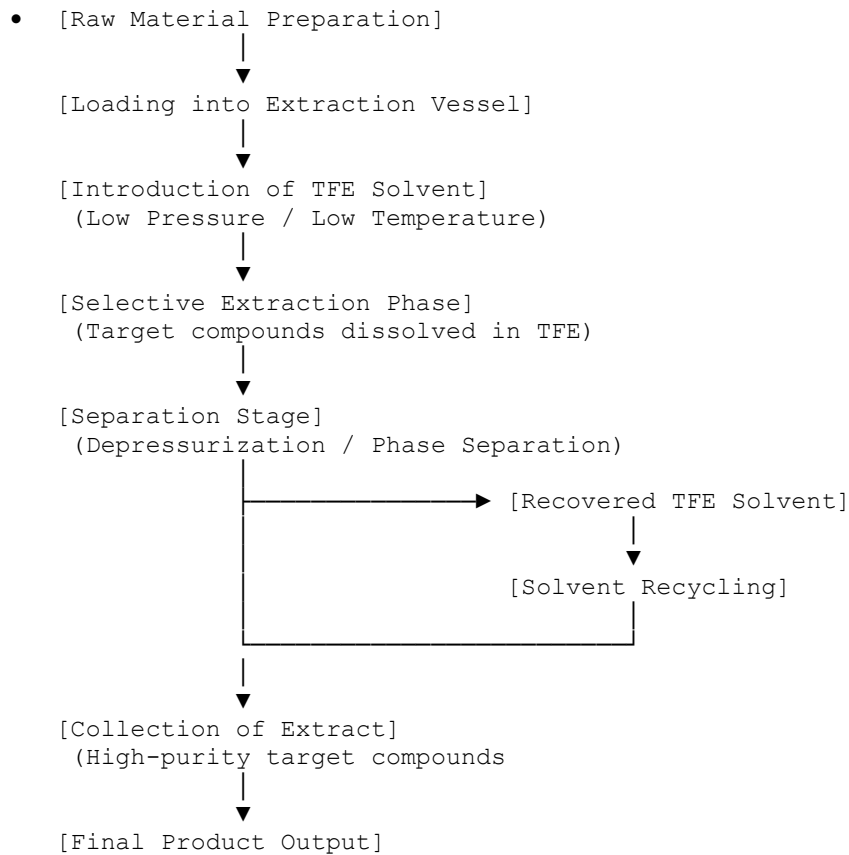
The low-temperature and low-pressure environment minimizes thermal and chemical degradation of sensitive compounds, resulting in higher-quality extracts with improved bioactivity and consistency.

7. Applications

This methodology is applicable across a range of large-scale extraction processes, including:

- Botanical extracts for flavour and fragrance applications
- Pharmaceutical and active pharmacological compounds
- Alkaloids and chemical intermediates

Low Pressure Extraction (LPE) Process Flow Diagram



WHAT OUR PRODUCT IS AND IS NOT

IS	NOT
✓ Clean ✓ Truly Full Botanical ✓ Strain specific ✓ Entourage effect ✓ Solvent-free extraction – because Tetrafluoroethane... https://www.ncbi.nlm.nih.gov/books/NBK207609/ ✓ Seed to sale at one location	✗ Co2 extraction ✗ Pressed extraction ✗ Hydrocarbon extraction ✗ Ethanol Extraction ✗ Stripped and put back together ✗ No synthetic terpenes ✗ No blended strains or terpenes

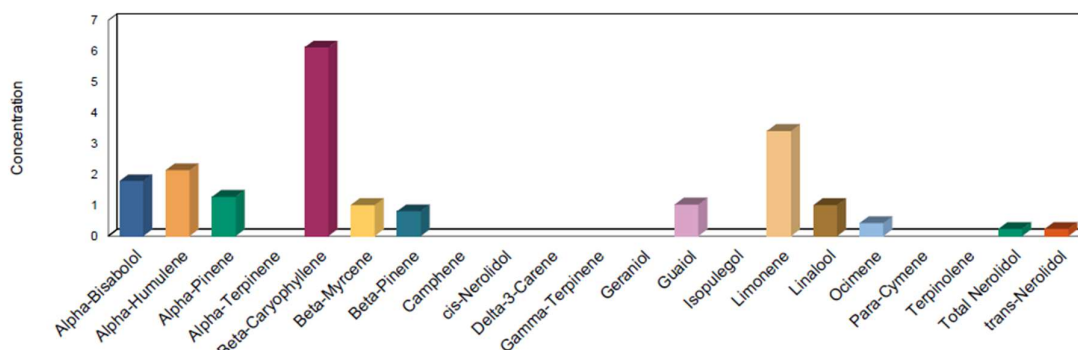


MERCURIAL
LINEAL NATURAL HEALING

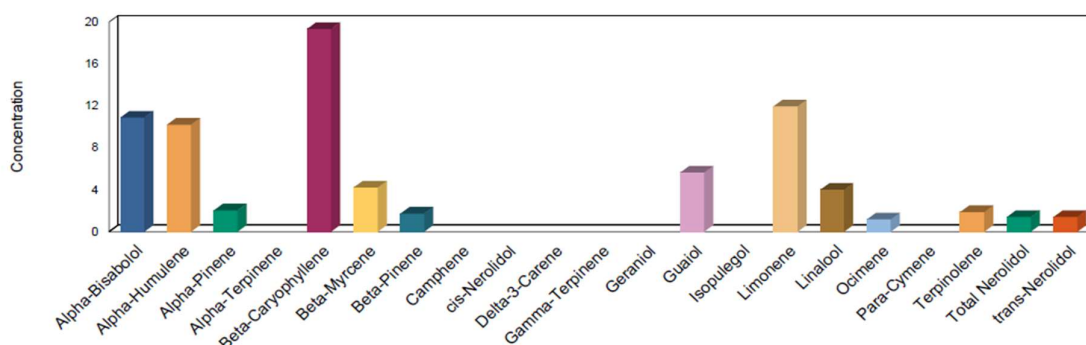
THE RESULTS SPEAK

Flower vs Oil – Same strain

FLOWER TERPENE PROFILE



OIL TERPENE PROFILE



MEDICINAL VALUE OF TERPENES

The below table demonstrates the benefits of specific terpenes for certain conditions. The numbers indicate the milligrams per gram of terpenes found in some of our Strain Specific Full Botanical Oil Extracts. Hence our drive for strain specific medicinal cannabis where the Cannabinoids, Terpenes and beneficials work together producing the entourage effect.

	STRAIN	STRAWBERRY BANANNA	MANDARIN SUNSET	WEDDING GELATO	CRITICAL +	SOUR DIESEL	SKYWALKER OG	TROPICANA COOKIES	CHEESE OG
TERPENE		mg/g	mg/g	mg/g	mg/g	mg/g	mg/g	mg/g	mg/g
Anxiety & Depression	Pinene	3.4	3.7	/	7.8	2.8	4.0	5.2	6.8
	Linatool	2.7	2.2	6.3	5.8	2.6	2.2	3.2	5.5
	Caryophyllene	26.1	15.1	25.5	25.9	10.5	16.7	20.4	24.1
	Myrcene	3.5	7.0	1.8	7.8	24.0	4.6	15.0	6.1
	Total	35.8	28.0	33.6	47.3	39.9	27.5	43.8	42.5
Pain and Inflammation	Caryophyllene	26.1	15.1	25.5	25.9	10.5	16.7	20.4	24.1
	Humulene	13.7	8.2	13.9	15.3	6.7	8.1	9.9	13.7
	Myrcene	3.5	7.0	1.8	7.8	24.0	4.6	15.0	6.1
	Limonene	5.2	9.2	4.1	28.5	4.1	9.3	17.9	24.2
	Total	48.5	39.5	45.4	77.4	45.3	38.8	63.2	68.2
Sedative	Terpinolene	4.6	18.0	/	1.5	3.8	19.9	11.4	2.0
	Linatool	2.7	2.2	6.3	5.8	2.6	2.2	3.2	5.5
	Caryophyllene	26.1	15.1	25.5	25.9	10.5	16.7	20.4	24.1
	Total	33.4	35.3	31.8	33.2	16.9	38.8	35.0	31.6
Anticancer & Antitumor	Humulene	13.7	8.2	13.9	15.3	6.7	8.1	9.9	13.7
	Terpinolene	4.6	18.0	/	1.5	3.8	19.9	11.4	2.0
	Limonene	5.2	9.2	4.1	28.5	4.1	9.3	17.9	24.2
	Caryophyllene	26.1	15.1	25.5	25.9	10.5	16.7	20.4	24.1
	Bisabolol	4.8	/	/	/	6.1	/	5.1	4.9
	Guaiol	5.1	2.7	/	6.7	2.8	2.5	5.2	6.0
	Pinene	3.4	3.7	/	7.8	2.8	4.0	5.2	6.8
	Ocimene	4.3	3.7	/	4.5	2.0	4.3	6.5	7.2
	Trans-Nerolidol	1.5	/	3.2	2.5	1.8	/	2.1	2.5
	Total	68.7	60.5	46.8	92.7	40.6	64.8	83.7	91.4