



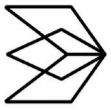

esolate



INNOVATE

ENGINEER

ADVANCE



Esolate Ltd.

INNOVATE ENGINEER ADVANCE

Esolate is a science first innovation company specializing in disruptive phytonutrient-based formulations.

Our intellectual property increases bioavailability, decreases degradation, and decreases production costs.

Esolate can unlock product solutions for a large range of consumer offerings in a variety of market verticals, including: CPG, Beverage/ Alcohol, Pet Products, Wellness/ Nutraceutical, and Pharmaceutical.





Current Issues for Cannabis Products



Poor formulations lead to poor product offerings

Low Bioavailability

Studies from 1986 and 2009 indicate that **bioavailability of cannabis oil-based products is less than 20%**, meaning, 80% of most ingested cannabinoids are not utilized.

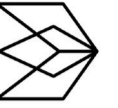
The BIOAVAILABILITY of both distillates and isolates is very LOW.

Ongoing Degradation

THC degrades between 20-40% within the first year at room temperature. Variables that reduce the potency of cannabinoids during processing and storage include Temperature, Air Exposure, Moisture and UV light.

Limitations of Current Solutions

Current formulation attempts includes yielded the use of standard emulsion processes. This non-proprietary process has been around since the 1950s and a large amount of non active chemicals for water solubility. Additionally, this process is time consuming, energy intensive. For spray dried emulsions, high heat is required, which adds to the degradation and reduces the number of options for active ingredients. (CBD-A, Terpenes, etc.)



Esolate Advantages

Esolate is a unique patent-pending process that provides the highest bioavailable input formulations. Our process is not a standard emulsion tech but a fast and efficient single-stage self-dissolving complexation that allows for a greater range in activity ingredients. Esolate decreases degradation, increases bioavailability/ user experience, and unlocks a full range in CPG offerings.



Highest Bioavailability

In September 2021 Esolate commissioned a third party independent In Vivo study to do a comparative study of Esolate formulation versus the current leading nano-emulsion process, and a tincture.

ONSET (blood concentration @ 3min)

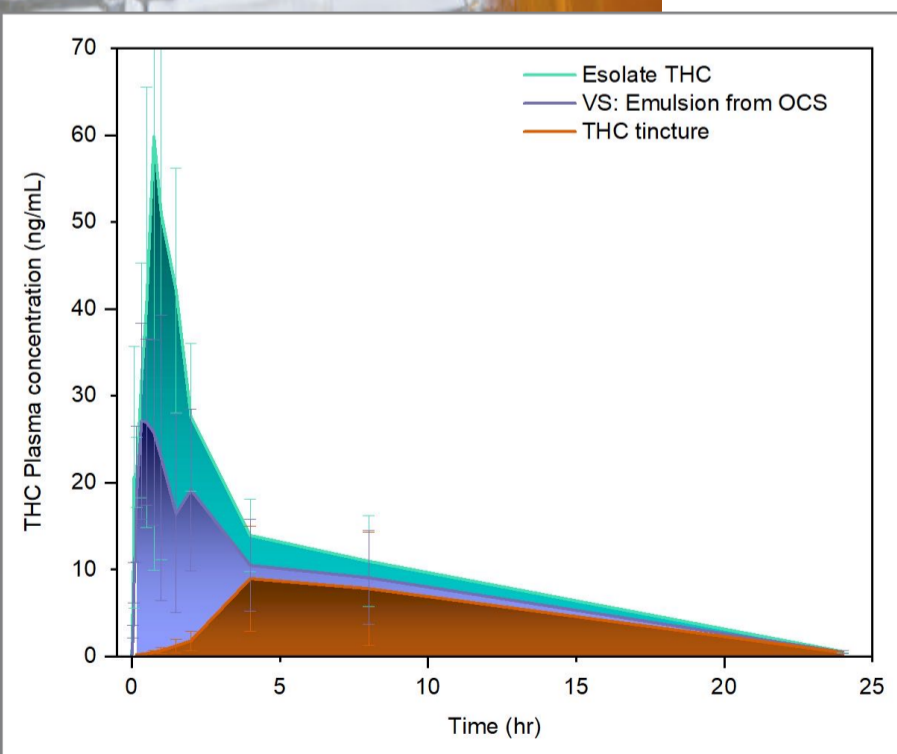
Esolate shows a 3x faster onset versus a leading nano-emulsion and >20x improved onset vs a distillate-based tincture

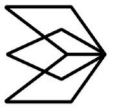
ONSET & BIOAVAILABILITY (Time to maximum blood concentration/absorption)

Esolate shows a 2x faster T_{max} than a nano-emulsion, and a 10x improvement over a distillate-based tincture

BIOAVAILABILITY (Maximum Total Blood Concentration)

Esolate shows a 2x more rapid C_{max} than the leading nano-emulsion and 5x improved over a distillate-based tincture





Full Range in Inputs

Esolate can process distillates, isolates, full/broad spectrum & rosin oil, CBD-a, as well as alternative phytonutrients, and terpenes.



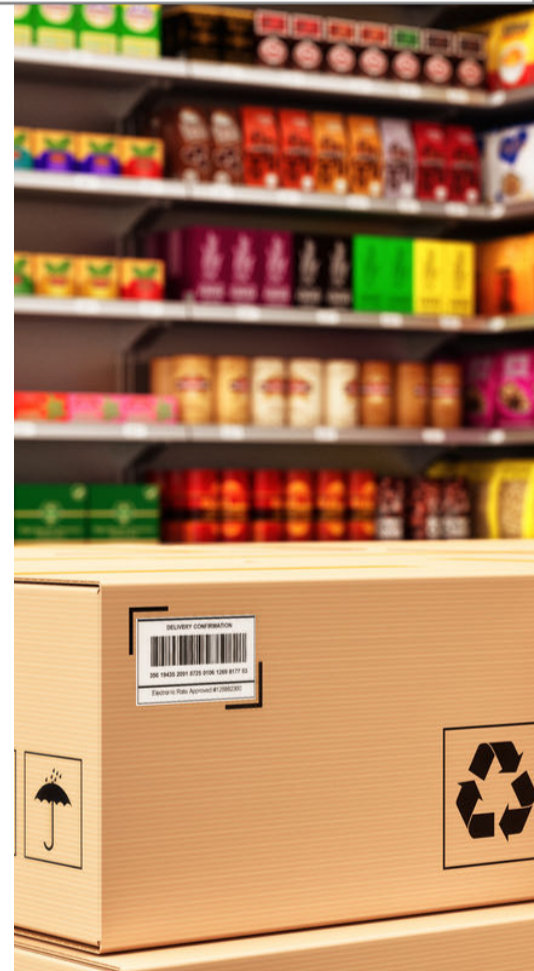
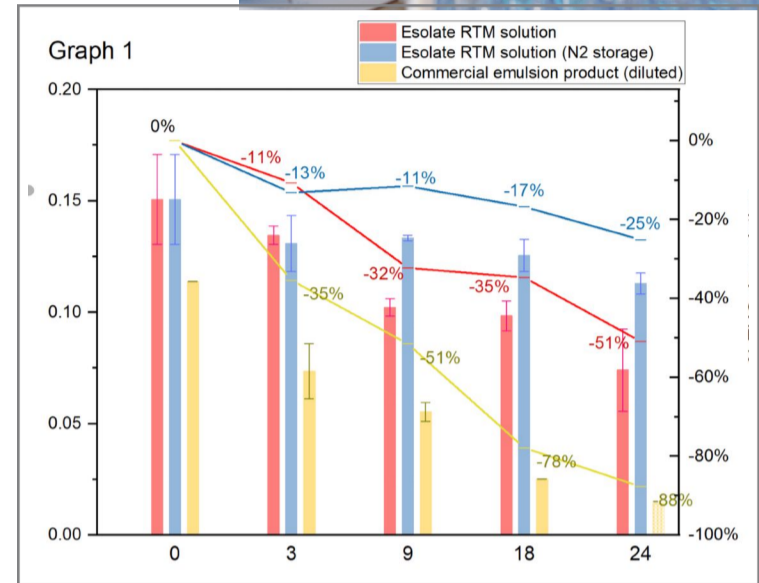
Reduces Degradation

Esolate reduces degradation of the active ingredients to help ensure customer satisfaction and user experience.



Increases Stability

In opposition to standard-nano techniques, the Esolate formulation is self-emulsifying which assists in increasing final-product/shelf stability.



Patent-Pending Protection

As opposed to many current formulations, Esolate is a patent-pending process.

INTERNATIONAL APPLICATION PUBLISHED
 World Intellectual Property Organization
 International Bureau
 (43) International Publication Date
 29 April 2021 (29.04.2021) WIPO | PCT

(51) International Patent Classification: A61K 31/05 (2006.01) A61K 47/40 (2006.01) A61K 31/352 (2006.01) AO, CA, DZ, HR, KP, ME, NZ, SA, TP

(21) International Application Number: PCT/US2020/056731

(22) International Filing Date: 21 October 2020 (21.10.2020)

(5) Filing Language: English (84) English

(7) Publication Language: English

Priority Data:
 23,726 21 October 2019 (21.10.2019) US
 455 01 November 2019 (01.11.2019) US

ESOLATE LTD [US/CA]; 1295 North
 LTP 3A7 (CA)



Product Formulations



Ready to Mix Powder

Highly Effective water soluble powders perfect for coffee pods with THC, tea bags with CBN for sleep, flavored juice powders for a DIY cannabis cocktail. Post workout shakes with CBD for anti-inflammation and/or THC-V for appetite suppression.

Perfect powders for DIY cannabis recipes.



Ready to Mix Liquid

Self-titrating formats for a 'choose your own adventure' experience. Pre-mixed liquids to add experience, color, and flavor to beverages. Can be used with seltzers, sodas, or already infused beverages to add an additional element for the user experience.



Ready to Drink Beverages

Non-alcoholic beverages that have a similar user experience as alcoholic beverages.

The convenience of pre-formulated and flavored products in-line with a branded product offering.





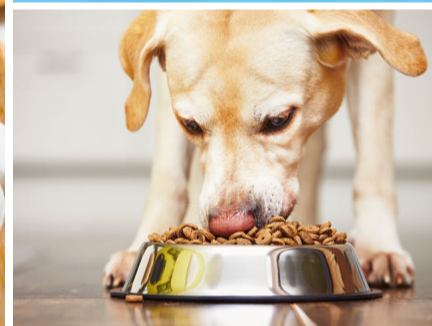
Ready to Eat

As opposed to legacy edibles, Esolate based products provide a more effective user experience. Powder formulation inputs can include THC, CBD, CBN, as well as Full-Spectrum powders. Classic candy formats coupled with the benefits of cannabis derived molecules.



Tablets

Pelletized formulations for one-a-day tablets and effervescent capsules for daily CBD wellness. Compressed CBD pet products for ease of use and ingestion.



Pastes/ Gels/ Liquids

Cosmetics and Topical products emphasizing the anti-inflammatory qualities of the CBD, CBG, CBD-a.

Both cream-based and water-based applications for topicals and to infuse dermal patches.

Edible gel formats for anti-inflammatory toothpaste.



