

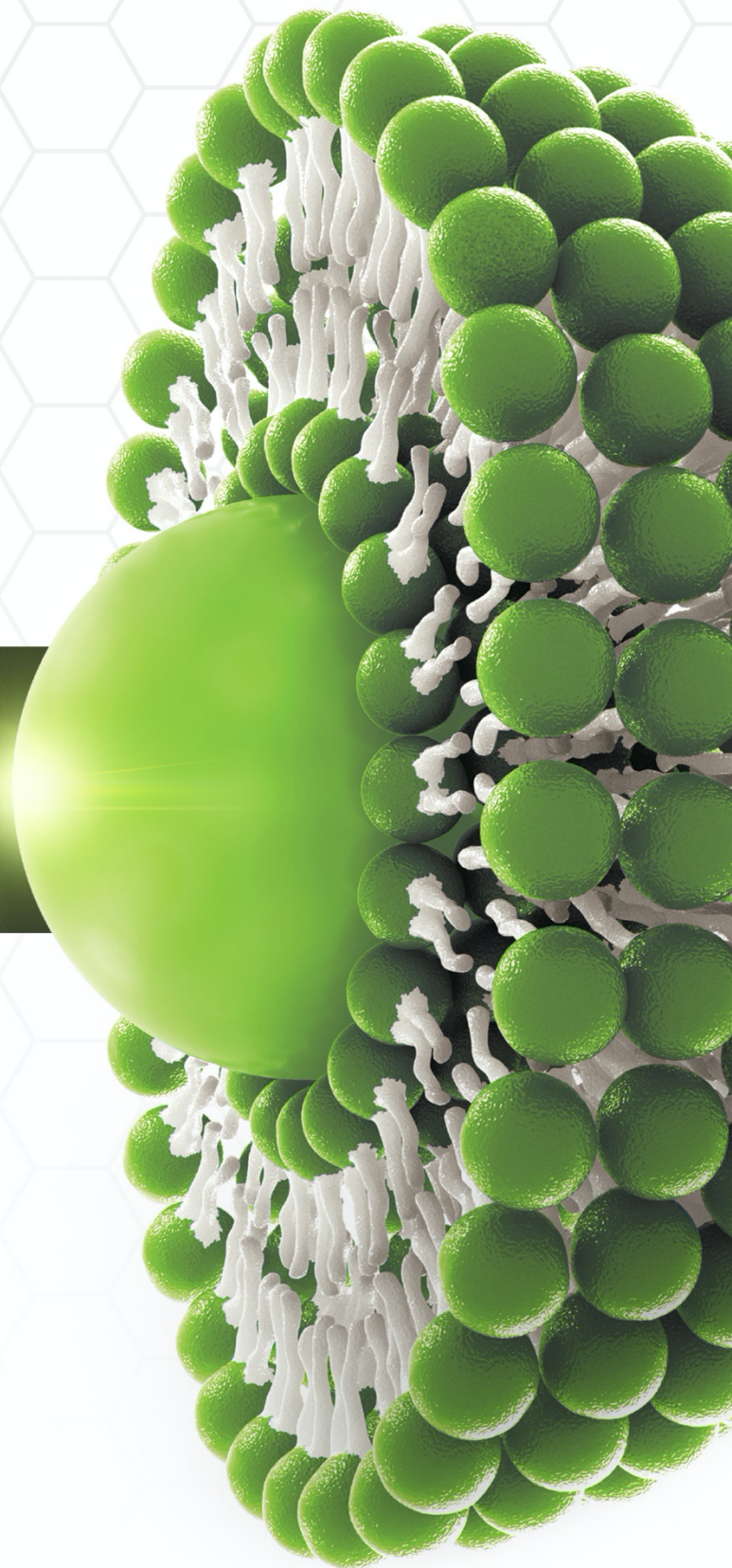
[KEEP CONFIDENTIAL]

WHOLESALE PARTNER CATALOG

HARNESS THE POWER OF
***Lipofusion™* CBD**
PATENT PENDING TECHNOLOGY

**QUESTIONS?
CONNECT WITH US:**

**info@cannaspherebiotech.com
(855) 328-9959**



The Future of CBD is here.

Cannasphere Biotech combines the power of Cannabidiol (CBD) with groundbreaking nanoliposomal* science. Our patent pending Lipofusion™ delivery technology delivers the “holy grail” combination of water solubility and maximized bioavailability—which means that consumers actually *feel* better more rapidly and for an extended duration. In fact, research** has shown that nanoliposomes can increase absorption of CBD by 80%.

Importantly, all Lipofusion™ CBD is Broad Spectrum—not a CBD isolate—thus bringing with it all the benefits of nature’s ideal “entourage effect” which includes terpenes, essential oils, and other cannabinoids minus the THC. There **is no detectable THC** in any of our products.

Powerful Delivery Technology, Better Results, Repeat Sales.

While the market is becoming crowded with ineffectual CBD products, it’s important to set your brand apart by offering CBD products that get results. Our Lipofusion™ delivery technology allows you to do just that. Lipofusion™ CBD the ideal raw ingredient for use in a wide variety of beverages, ingestibles, and supplements such as capsules, tablets, and flavored beverage powders. Our products are manufactured in a GMP facility.

While a number of CBD products claim to be water soluble, ours is truly water soluble. Here’s why. We don’t just break the CBD active down into nanoparticles. Instead, we utilize a groundbreaking nanoliposomal encapsulation process—our patent pending Lipofusion™ technology—to surround the hydrophobic CBD actives with submicroscopic lipid spheres. The result? CBD that is 100% water soluble and protected.

The Benefits of Nanoliposomal Delivery are BIG.

- Superior nutrient absorption at a cellular level (optimized bioavailability)
- 100% water-solubility / miscibility
- Largely masks the bitter, unpleasant taste of CBD (very mild herb)
- No detectable THC (Ask to see our Certificate of Analysis)
- No artificial colors, flavors, or sweeteners
- Vegan, Soy-free, Non-GMO

For more details on how our technology compares to conventional delivery and basic nanoemulsion techniques, please see the enclosed scientific overview on Lipofusion™ at the back of this catalog.

Because we aim to earn your trust, all of our products undergo rigorous testing for purity, potency, safety and efficacy at independent laboratories. A Certificate of Analysis is available on our website.

<https://cannaspherebiotech.com/about-us/certificates-of-analysis/>

*Nano particle size: please keep in mind that particle size may vary. **The study titled, “Characterization + Pharmacokinetics of a Novel Nano-Liposome Delivery System Of Cannabidiol,” in 2019 by Dr. Brian Sloat, PhD, confirmed that nanoliposomes facilitate optimal absorption, which can be up to 80% more than conventional CBD. Cannasphere Biotech is also currently designing its own clinical study to derive data.



The Powerful Benefits of Phospholipids

Our High Caliber Nanoliposomes Deliver Added Nutritional Value

Go *beyond* CBD alone.

Cannabidiol (CBD) is extraordinary and we are only just beginning to understand its full value for human health and wellbeing. However, our manufacturing-ready powders and liquids **combine CBD with Phosphatidylcholine (PC)**—significantly amplifying absorption and nutritional value.

What is Phosphatidylcholine (PC)?

Phosphatidylcholine (PC) is a special class of essential phospholipids and a major component of every cell membrane. In fact, PC helps to maintain structural integrity of cells and will actually repair cells that are endangered by internal and external health threats. There are **more than 35,000 studies on PC**, and researchers tout its **numerous health benefits**. As a result, we know that PC is essential to maintaining **optimal functioning of our heart, brain, liver, lungs, and immune system**. Several studies support the following health and **anti-aging benefits** of PC:

- Boosts and regulates the immune system
- Enhances cognitive focus and memory
- Reduces LDL (bad) cholesterol
- Increases exercise tolerance
- Rejuvenates the liver, protecting it from toxins, drugs and free radical assault
- Prevents the appearance of wrinkles and scarring

How are (nano)liposomes and PC connected?

Liposomes are most often composed of phospholipids, especially phosphatidylcholine (PC). We choose to utilize **PC derived from non-GMO sunflower** to produce high caliber nanoliposomes. While liposomal delivery is not new, not all methods are created equal. Our products are made utilizing our patent-pending **Lipofusion™ Delivery Technology** to encase CBD actives within brain-boosting lipids (PC) that are bioidentical to our cell membranes. This allows the nanoliposomes to deliver CBD more effectively at a cellular level.

The results? Superior bioavailability, rapid onset, sustained release, and most importantly—truly satisfied customers.



Section 1

RAW INGREDIENTS (MANUFACTURING READY)

Featuring Lipofusion™ Delivery Technology + More



Lipofusion™ CBD Powder (Broad Spectrum in 5% or 20%)

PATENT PENDING NANOLIPOSOMAL TECHNOLOGY

Our products are manufactured in a GMP facility.

- Product Attributes:**
- Manufacturing Ready
 - Patent Pending Technology
 - Nanoliposomal Encapsulation
 - Highly Bioavailable
 - Rapid Onset
 - Sustained Release
 - Water-Soluble Powder
 - Broad Spectrum, Hemp-derived CBD
 - No Detectable THC
 - Unflavored
 - No Artificial Sweeteners
 - No Artificial Coloring
 - Vegan, Soy-free, Non-GMO



Volume packages: Available in 50-gram foil pouches for R&D;
Bulk orders typically packaged in sealed pharmaceutical grade containers

Shelf life: 24 months in sealed container (Stability test results available)

Uses: Our unflavored hemp-derived Lipofusion™ CBD powder is available as a raw ingredient, which can be used in a variety of products, e.g. edibles, beverage powders, capsules, tablets and more.

Active Hemp CBD: Available concentrations: 5% agglomerated (instantly disperses in liquid) or 20% non-agglomerated (ideal for capsules, tablets, edibles)

Other ingredients: Phosphatidylcholine Phospholipids (from Non-GMO Sunflower), MCT Oil, Non-GMO Modified Starch

3rd Party Lab Analysis: For details as well as potency results, please refer to our Certificate of Analysis.

Pricing: Please refer to our current rate card.



Lipofusion™ CBD Liquid Concentrate (Broad Spectrum)

PATENT PENDING NANOLIPOSOMAL TECHNOLOGY

Our hemp-derived Lipofusion™ CBD Liquid Concentrate is a new innovation in nanoliposomal encapsulation, which research* has shown to increase absorption of CBD by 80%. This water soluble, liquid CBD concentrate is designed to be used in a wide variety of topicals and ready-to-drink beverages.

Product Attributes:

- Patent Pending Technology
- Nanoliposomal Encapsulation:
 - Highly Bioavailable
 - Rapid Onset
 - Sustained Release
- Water-Soluble / Miscible Liquid
- Broad Spectrum, Hemp-derived CBD
- No Detectable THC
- No Artificial Coloring
- Vegan, Soy-free, Non-GMO
- Unflavored, Manufacturing Ready



Lipofusion™ CBD Liquid Concentrate
50 mg of CBD per 1 mL

Volume packages:	Available in a variety of sizes for R&D purposes. Bulk orders sold by the liter.
Shelf life:	Currently in stability testing. When integrated into a liposome, CBD is incredibly stable and does not undergo oxidation (degradation).
5% Active CBD:	5% i.e. 50 mg of CBD per 1 mL
Other ingredients:	Phosphatidylcholine Phospholipids (from Non-GMO Sunflower), MCT Oil, Non-GMO Modified Starch, Sodium Benzoate
3rd Party Lab Analysis:	For details as well as potency results, please refer to our Certificate of Analysis.
Pricing:	Please refer to our current rate card.

*The study titled, "Characterization + Pharmacokinetics of a Novel Nano-Liposome Delivery System Of Cannabidiol," in 2019 by Dr. Brian Sloat, PhD, confirmed that nanoliposomes facilitate optimal absorption, which can be up to 80% more than conventional CBD. Cannasphere Biotech is also currently designing its own clinical study to derive data.

Krystal Klear® CBD Liquid Concentrate

UTILIZING CUTTING EDGE MOLECULAR TECHNOLOGY

Broad Spectrum or Isolate Available

This revolutionary hemp-derived CBD concentrate is water soluble and made with natural ingredients to lend to a very clean label (only 2 ingredients).

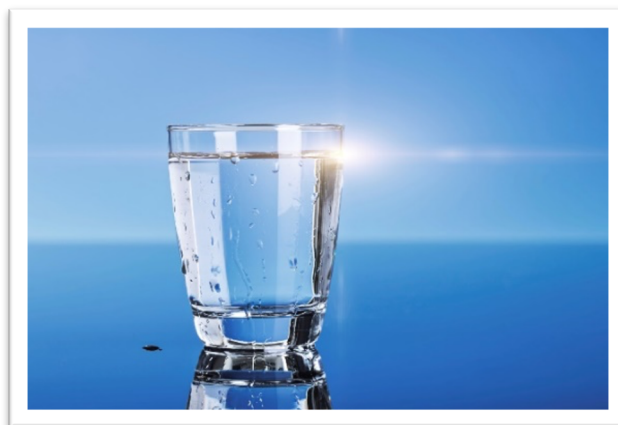
It is exquisitely clear and infinitely stable, making it especially suited for use as an active ingredient in a wide variety of ready-to-drink functional beverages. It is particularly ideal for clear beverage applications such as bottled water. Read about

Features and Benefits

- Revolutionary molecular technology
- Hemp-derived CBD
- Broad Spectrum or Isolate Available
- No Detectable THC
- No Artificial Coloring
- Neutral Flavor Profile (No Bitterness)
- Vegan, Soy-free, Non-GMO

Certifications

- Kosher – Eligible for Certification
- Halal – Eligible for Certification



Exquisitely clear and infinitely stable.

Packaging & Storage: Packaged in polyethylene containers in 500 ml, 1 L, 1.25 gal, 2.5 gal, and 5 gal volumes. Store in a clean, dry area under refrigeration and away from heavily aromatic materials.

Concentrations Vary: Please ask for details. Because this product is truly unique, our team is available to consult on the right concentration to meet your consumer product goals.

Other ingredients: Available upon request.

Shelf life: Indefinite when diluted for use in beverage products. Note: this is **not** an emulsion; it is a molecular solution, which is completely stable by nature.

3rd Party Lab Analysis: For details as well as potency results, please refer to our Certificate of Analysis.

Pricing: Please refer to our current rate card.

PLEASE NOTE: THIS IS NOT A NANOLIPOSOMAL PRODUCT



Advantages of Krystal Klear®

Hydroxy Propyl Beta Cyclodextrin

Smaller molecular size: The HP β CD inclusion complex molecules measure 0.6 nanometers with capacity to capture and trap fatty molecules under 0.2 nanometers.

Water Solubility: HP β CD inclusion complex's hydrophilic exterior vastly improves solubility and stability in fluid and enables actives to enter the bloodstream undetected by reactive phagocytes.

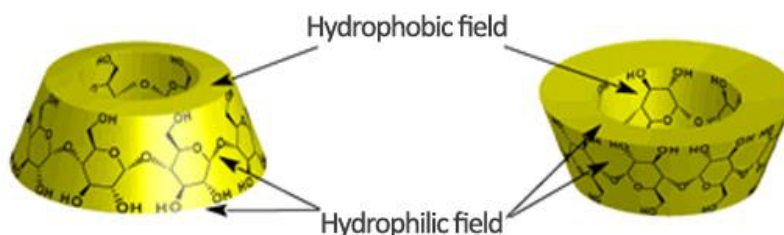
Uptake & Bioavailability: The size and water-solubility of HP β CD facilitates improved uptake and bioavailability at the molecular level.

Flavor Masking: The way HP β CD traps and carries CBD makes it ideal for masking medicinal flavors to the point they are undetectable in beverages and edibles.

Superior Stability: The HP β CD inclusion complex is less volatile and more stable in harsh environments than other encapsulation methods and protects active CBD from degradation in digestive enzymes, extreme temperatures, PH variations, alcohol and oxidative exposure.

Delivery Applications: HP β CD inclusion complex can be used in multiple CBD delivery applications including oral capsules, tinctures, topicals, edibles and beverages. In beverages, the inclusion complex is far more translucent (not cloudy) than any other nano-encapsulation method used to fortify beverages, including alcoholic spirits such as vodka.

Medical Advantages: HP β CD increases solubility and bioavailability of insoluble CBD, so that the efficacy of active CBD can last longer with less ingestion of drugs. It also enhances stability of CBD, and makes it possible to adjust and control release ratio and target delivery to organs with increased precision.



Section 2

FINISHED PRODUCTS

(AVAILABLE IN BULK)

Featuring Lipofusion™ Delivery Technology + More



Flavored Lipofusion™ CBD Drink Powders

PATENT PENDING NANOLIPOSOMAL TECHNOLOGY

Refreshing, naturally-flavored CBD Drink Powders are a refreshing way to rise above the competition. You can now offer customers convenient, single-serving flavored CBD beverage powders that are truly effective and taste great. With zero sugar and very few calories per serving—these are truly nature's perfect wellness drink.

Please note: We don't offer private label services, but we offer formulation cards for the 3 flavors (see below) with any order of 5 kilograms of powder or more. We can also recommend great co-packers to blend, fill, etc.

- Product Attributes:**
- Patent Pending Technology
 - Nanoliposomal Encapsulation
 - Highly Bioavailable
 - Water-Soluble Powder
 - Broad Spectrum, Hemp-derived CBD
 - No Detectable THC
 - Vegan, Soy-free, Non-GMO
 - No Artificial Coloring or Sweeteners
 - Made in the USA



- Packaging:** Many options! You decide! Single-serving stick packs or 30-serving pouches or jars.
- Strength:** How much CBD per serving? This is your choice, but commonly suggested dosages for CBD supplements range from 10 mg to 25 mg of CBD per serving.
- Flavors & Ingredients:**
- PASSIONFRUIT:** Hemp-derived Cannabidiol + Other ingredients: Agave (*Agave tequilana*) powder, natural flavors, passionfruit powder, citric acid, malic acid, stevia leaf extract, guar gum, silicon dioxide and beta carotene (for color).
- BLUEBERRY CHILL:** Hemp-derived Cannabidiol + Other ingredients: Agave (*Agave tequilana*) powder, natural flavors, citric acid, malic acid, stevia leaf extract, guar gum, silicon dioxide and fruit and vegetable juice (for color).
- GINGER LEMONADE:** Hemp-derived Cannabidiol + Other ingredients: Agave (*Agave tequilana*) powder, natural flavors, citric acid, malic acid, stevia leaf extract, guar gum, silicon dioxide and beta carotene (for color).
- How to use:** Mix contents of 1 stick pack with 12 to 16 ounces of water. Stir well or shake.
- Shelf life:** 24 months in sealed package
- 3rd Party Lab Analysis:** For details as well as potency results, please refer to our Certificate of Analysis.
- Pricing:** Please request a quote.



Lipofusion™ CBD Tablets + Capsules

CURRENTLY AVAILABLE



Immunity Power Capsules

Powered by Lipofusion™ CBD (25 mg) +
PureWay C Liposomal Complex (100 mg)



Ease + Flow CBD Tablets

Powered by Lipofusion™ CBD (20 mg each)
Unflavored

Product Attributes:

- Patent Pending Nanoliposomal Encapsulation Technology
- Broad Spectrum, Hemp-derived CBD
- No Detectable THC
- Highly Bioavailable
- Vegan, Soy-Free, Non-GMO
- Made in the USA

Volume packages: Delivered in bulk. Minimum order 5,000 pieces i.e. capsules or tablets.

Active CBD: See product details per SKU, but concentrations vary per customer request

Other ingredients: Available upon request

3rd Party For details as well as potency results, please refer to our Certificate of Analysis.

Lab Analysis:

Pricing: Available upon request



Cushers™ Liquid-Center CBD Gummies with Patented Liposomal Delivery

INNOVATIVE & FIRST EVER TO COME TO MARKET

The first-ever liposomal Liquid-Center CBD Gummies are the perfect addition to your lineup of highly bioavailable CBD products. Get on our VIP list to be the first to find out when samples of these refreshing new broad spectrum CBD gummies are released. A wide variety of flavors will be available. Consider combining CBD with other actives like Vitamin C or Curcumin. The possibilities are endless!

Product Attributes:

- Patented Technology
- Liposomal Encapsulation
 - Highly Bioavailable
 - Rapid Onset
 - Sustained Release
- Hemp-derived CBD
- Broad Spectrum, not Isolate
- No Detectable THC
- Variety of flavors available
- No Fillers, Binders
- Vegan, Gluten-free, Soy-free, Non-GMO
- Made in the USA



Patented Cusher™ Liquid-Fill CBD Gummies

Flavor profiles: Green Apple, Strawberry, Lemon Tart, Grape *and more*

Volume packages: Bulk orders sold by the pound

Active CBD: 10 mg per piece

Other ingredients: Available upon request

3rd Party Lab Analysis: For details as well as potency results, please refer to our Certificate of Analysis.

Pricing: Available upon request



CREATE YOUR OWN PRODUCTS POWERED BY LIPOFUSION™

Need Help with Custom Formulations & Product Development?



Powerful technology. Amazing results. Repeat Sales. That is the formula for success in today's cannabinoid market.

While the market is becoming crowded with ineffectual CBD products, it's important to set your brand apart by offering CBD products that get results.

Harness the competitive power of our groundbreaking Lipofusion™ delivery technology to create highly bioavailable formulations for your own product lineup.

Our water soluble CBD, made with patent pending Lipofusion™ delivery technology, can be utilized as a raw ingredient (in either powder or liquid form) in a wide variety of formulations.

If needed, we welcome the opportunity to serve as your product development partner, helping to create unique cannabinoid formulations made exclusively for your brand.

We also offer private label products that combine the power of CBD with our leading edge nanoliposomal delivery technology to maximize efficacy and deliver remarkable, reliable benefits.

Utilize the power of our groundbreaking Lipofusion™ delivery technology to supercharge your product lineup. When your customers experience the amazing results of your Lipofusion™ CBD products, they'll become loyal, repeat customers.

ADDITIONAL RESOURCES:

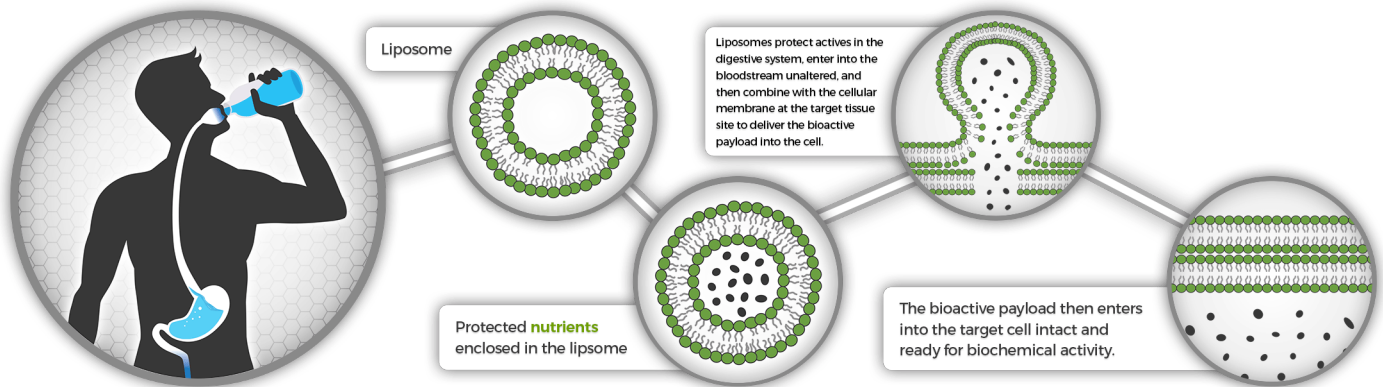
TECHNOLOGY OVERVIEW & COMPARATIVE ANALYSIS

We encourage you to read the following overview which provides insight on the science behind why and how Cannasphere's patent pending Lipofusion™ delivery technology improves upon conventional cannabis/hemp oils and existing nanoemulsion/encapsulation methods to optimize bioavailability and assimilation of cannabinoids at the molecular level.

CERTIFICATE OF ANALYSIS – Please visit CannasphereBiotech.com/COA



TECHNOLOGY OVERVIEW & COMPARATIVE ANALYSIS



Why & How Cannasphere's Lipofusion™ Technology Improves Upon Conventional Cannabis/Hemp Oils and Existing Nanoemulsion & Encapsulation Methods to Optimize Bioavailability and Assimilation of Cannabinoids at the Molecular Level

Introduction

The purpose of this overview is to examine and provide a comparative analysis of new technologies and conventional methods for delivering vital cannabinoid nutrients and, more specifically, improve their bioavailability to optimize activity in the human endocannabinoid system.

Bioavailability of cannabinoids has improved significantly over the last decade with the advent of nanoemulsion technology. However, degrees of efficacy vary based upon the methods used to deliver cannabinoids such as Cannabidiol (CBD). Few technologies have overcome problems of nutrient uptake due to:

- Decomposition and chemical alteration at many levels in the digestive system
- Hydrolysis or breakdown of molecules upon exposure to fluid, in this case, entry into the GI tract
- Reduction in bioavailability of active CBD when taken alone (without food or water)

Cannasphere Biotech has developed a proprietary, patent pending nanoencapsulation technology called Lipofusion™ that incorporates soluble fibers with nanoliposome vesicles to mitigate bioactive degradation and overcome common obstacles to bioavailability (such as those mentioned above).



The Evolution of CBD Delivery

Scientists have identified 66 major cannabinoids present in all varieties of the cannabis plant, each serving a variety of medicinal/therapeutic purposes by working synergistically to activate key functions of the human endocannabinoid system. These cannabinoids fall into several subclasses including cannabigerols (CBG), cannabichromenes (CBC), cannabinols (CBN), cannabicyclol (CBL), cannabielsoin (CBE), cannabitriol (CBT), cannabidiols (CBD) and tetrahydrocannabinols (THC), among others that are lesser known. The most commonly known and extracted cannabinoids are THC, which produces the psychoactive effect of “marijuana” and CBD, which is found in abundance in the hemp plant.

Until recently, available delivery methods of cannabinoid actives were limited to:

- Cannabis flower, commonly smoked and baked into edibles to decarboxylate (activate) THC
- Inhaling vaporized extracts
- Pressed oils and extracts, which can be taken orally or applied topically to the skin

In the last decade, cannabis supplement manufacturers have developed more precise methods of extracting the bioactive compounds and isolates.

Utilizing nanoemulsion technology, manufacturers have successfully facilitated improved uptake and bioavailability. However, most recently, liposomal encapsulation technology has emerged as a more effective delivery method that makes therapeutic CBD even more bioavailable within the body.

What is a nanoliposome?

The word “liposome” is derived from two Greek words: “Lipos” (which means fat) and “Soma” (which means body). Liposomal technology isn’t new and has been around since the 70’s. It’s most commonly used by hospitals in the form of intravenous and intramuscular medicine. The prefix ‘nano’ denotes that the liposome size is submicroscopic.

A nanoliposome is a submicroscopic spherical vesicle resembling a cell with an outer shell comprised of fat-soluble phospholipids that protect the water and fat-soluble actives inside from degradation while en route to their destination. Since these phospholipids are bioidentical to our cell membranes, this outer “shell” functions the same way a human cell membrane does to protect its molecular center and inner compartments. One of the most important functions of phospholipids is to protect and regulate the transport of nutrients through the small intestine and into the blood stream targeting your cells. In this capacity, these molecules work as ‘gatekeepers’ and play an integral role in determining what goes in and out of the cell.



How does nanoliposomal delivery supercharge bioavailability?

The key to nanoliposomal delivery is in the protective layer of the nanoliposome's phospholipids. First, it is important to understand the structure of phospholipids, as this holds the key to grasping how nanoliposomes work.

In layman's terms, each phospholipid molecule is made up of a circular "head" which likes water and a "tail" that does not. The heads are attracted to water while the tails try to avoid it, causing the phospholipids to arrange themselves in double layered lines where the heads are all outside, touching water, and the tails are "dry" in the encasement they've created.

In an aqueous solution (i.e. water), the phospholipids automatically self-assemble into a double layer so the hydrophobic fatty acid tails (which like to stay dry) move away from water and turn inward; whereas the water-loving phosphate head moves toward the liquid by turning toward the middle of the double layer. This results in a closed, spherical structure called a "nanoliposome" with a hollow aqueous core surrounded by a double-layer (bi-layer) membrane, which encapsulates active CBD and other nutrients into these submicroscopic vesicles and protects them from digestive degradation and hydrolysis in the bloodstream until they are fused into the cells.

Other functions of phospholipids:

- Allow cell membranes to be fluid, which helps cells to change shape, fuse with one another and adapt to environmental changes
- Mimic our own cellular molecules to enable assimilation at the cellular level (for example, phospholipid molecules can bypass white blood cells without signaling an immune response (such as attacking a foreign pathogen or targeting the site of infection)
- Protect cell membranes against oxidative damage caused by free radicals
- Enable fusion of active nutrients through membranes of targeted cells at the molecular level



Comparative analysis of conventional, nano-emulsion, and nanoliposomal delivery technology

Conventional Supplements:

The contents of conventional supplements undergo decomposition at many levels in the digestive system, thus resulting in wasted nutritional value. Studies have shown that most nutritional supplements taken orally lose up to 90% of their nutritional value during the digestive process.

The body's digestive system is designed to release enzymes that break down food to extract nutrients from food. While it works well to break down food for absorption, the destructive nature of the digestion process can degrade the vulnerable, microscopic actives in nutritional supplements before the body gets a chance to assimilate them. This can greatly limit effectiveness and decrease nutritional value of the supplements.

Nutrients carried or encased with binders that help them to survive digestion long enough to enter the blood stream can be subject to attack by the white blood cells, which seek to destroy foreign substances in the course of normal immune responses. These factors can also reduce the absorption rate and bioavailability of actives, resulting in wasted nutritional value.

Nanoemulsion Supplements:

Supplements and drugs utilizing nanoemulsion and encapsulation technology to deliver nutrients can vastly improve absorption and bioavailability over conventional delivery methods. However, if they are not encapsulated with fat-soluble outer coatings, they can be unstable and equally vulnerable to degradation upon exposure to digestive enzymes and phagocytic action.

In fact, encapsulating supplements with single layer membranes instead of phospholipids doesn't protect the supplements at all. They are immediately absorbed wherever they enter, making it difficult to sustain proficient delivery of actives. Some nanoparticles also trigger an immune response from white blood cells which decreases the amount of time the nutrients stay potent within the body. This is referred to as the (half-life) which measures the concentration of a substance in the body.

Cannasphere Solves These Problems with its Patent Pending Lipofusion™ Technology:

The most interesting and beneficial innovation of our patent pending Lipofusion™ technology is that our vesicles utilize a liposomal encapsulation process to encase CBD actives within phospholipids (from non-GMO sunflower) that are bioidentical to the membranes that surround human cells. This allows the nanoliposomes to easily target cells on a molecular level, delivering nutritional payloads directly to the bodily tissues in need.



Not only are our nanoliposomes more stable and bioavailable (facilitate greater absorption) than conventional or nanoemulsion delivery methods, they also:

- Incorporate organoleptic benefits (a process that naturally enhances taste and help minimize unpleasant “medicinal” fragrance and aftertaste)
- Provide additional nutritional value inherent in the phospholipids, which contain phytonutrients and essential fats our body needs to stay healthy
- Serve as a protective barrier that prevents oxidation from exposure to free radicals or other environmental elements and degradation of nutrients caused by enzymes, bile acids and intestinal microorganisms in the digestive tract

CONNECT WITH US:

info@cannaspherebiotech.com or (855) 328-9959



APPENDIX

Lipofusion™ CBD Liquid Concentrate Shelf Life Study


 1355 Pacific Place
 Suite 101
 Ferndale, WA 98248
 phone: 360.733.1205
 fax: 888-818-2978
 email: lab@exactscientific.com

 Client: Cannasphere Biotech
 1710 N. Highley Rd., Ste. 105
 Mesa, AZ 85205

 Invoice Number: 21-00326
 PO Number:
 Received Date: 01/07/2021

Product:	(Liposomal) Lot #CBDLIQUID-05-008RD	Serving Size:	N/A			
Shelf Life- Accelerated	Goal: 12 Months	Temperature: 40°C	Humidity: 70%			
Study Duration: 3 Months						
Shelf Life Report Form						
Summary of Test Results						
Real Time (in months)		0	3	6	9	12
Analysis	Target Limit	1/7/2021	1/29/2021	2/21/2021	3/16/2021	4/8/2021
SPC (cfu/g)	<1,000	<10	<10	<10	<10	<10
Yeast (cfu/g)	<100	<10	10	<10	<10	<10
Mold (cfu/g)	<100	<10	<10	<10	<10	<10
Coliform (cfu/g)	<100	<10	<10	<10	<10	<10
Enterobacteriaceae (MPN/g)	<10	<10	<10	<10	<10	<10
Staphylococcus aureus (per 10g)	Absent	Absent	Absent	Absent	Absent	Absent
E. coli (per 10g)	Absent	Absent	Absent	Absent	Absent	Absent
Salmonella species (per 10g)	Absent	Absent	Absent	Absent	Absent	Absent
Rancidity						
Peroxide Value (meq/kg)	<5.00	<0.1	<0.1	<0.1	<0.1	<0.1
Physical						
Moisture (%)	61.00-65.00	63.61	63.83	61.19	59.67	61.11
Label Claims						
CBD (%)	5.00	5.65	5.41	5.10	--	4.92
Liposomes (by Microscopic Exam)	Present	Present	Present	Present	Present	Present
Shelf Life Comments and Conclusions						
Samples of regular production batches of product were received and logged into our Laboratory Information Management System (LIMS). Each pull date was given a unique sample number. The samples were stored in an elevated temperature oven. The samples were tested at day zero and at regular intervals for three months. Microbial findings did not exceed levels that would indicate bacterial. Peroxide values were within an acceptable range for this product. Moisture levels were within an acceptable range for this product. Moisture was slightly below the target levels on month 9 (3/16/2021). Packaging may need to be evaluated to prevent moisture loss. This does not indicate end of shelf life. Label claims were consistent throughout the study. Analysis of this product for shelf life stability does not ensure safety with regards to pathogenic bacteria, such as Staph. aureus, E. coli, Listeria and Salmonella. Based on the findings from this study, a shelf life of twelve months at 25°C is recommended for this product.						
Signature:	Kent Oostra	Date:	06/01/2021			

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APPENDIX

Lipofusion™ CBD Powder (20%) Shelf Life Study



1355 Pacific Place
Suite 101
Ferndale, WA 98248
phone: 360.733.1205
fax: 888-818-2978
email: lab@exactscentific.com

Client:

Vitasome Labs Inc
7613 East Ray Road, Suite 122
Mesa, AZ 85212

Invoice: 19-16502

PO:

Date Received: 11/01/2019

Product:	LCBD20			Serving Size:	N/A		
Shelf Life- Accelerated	Target: 24 Months	Temperature: 40° C		Humidity: 70%	Study Duration: 6 Months		
Shelf Life Report Form							
Summary of Test Results							
Real Time (in months)		0	6	12	18	21	24
Analysis	Target Limit	11/18/2019	1/2/2020	2/27/2020	4/3/2020	4/26/2020	5/19/2020
Physical							
Loss on Drying (%)	<3.00	1.28	2.23	2.46	1.68	2.99	2.21
Cannabinoid Profile							
Total Cannabinoids (mg/g)		194.6	203.4	200.3	203.4	238.0	238.1
CBD (%)		19.32	20.22	19.73	20.22	23.50	23.59
THCV (%)		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
CBN (%)		<0.01	<0.01	0.02	<0.01	<0.01	<0.01
CBGA (%)		Included in CBG analysis					
d-9 THC (%)		<0.01	<0.01	<0.01	<0.01	0.02	<0.01
CBDV (%)		0.07	0.12	0.14	0.12	0.15	0.12
d-8 THC (%)		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
CBG (%)		<0.01	<0.01	0.08	<0.01	0.04	0.03
CBDA (%)		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
THCA (%)		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
CBC (%)		0.07	<0.01	0.05	<0.01	0.08	0.06
Shelf Life Comments and Conclusions							
Samples of regular production batches of product were received and logged into our Laboratory Information Management System (LIMS). Each pull date was given a unique sample number. The samples were stored in an elevated temperature oven. The samples were tested at day zero and at regular intervals for six months. Loss on drying results were within an acceptable range for this product. Cannabinoid results were consistent throughout the study. Total cannabinoids tended to increase slightly over the duration of the study. Analysis of this product for shelf life stability does not ensure safety with regards to pathogenic bacteria, such as Staph. aureus, E. coli, Listeria and Salmonella. Based on the findings from this study, a shelf life of twenty-four months at 25° C is recommended for this product.							
Signature:	Kent Oostra			Date:	5/26/2020		

