

Understanding Hemp Extracts and CBD Oil.

Quality assurance, product selection,
and serving size tracking.



Quality of Product Matters

When selecting cannabis products, purity and consistency should be the highest priorities.

Regulations in the hemp industry are inconsistent across different U.S. states and change frequently, so products made from hemp extracts should be thoroughly evaluated before ingestion.

One non-profit, the Realm of Caring Foundation, has developed the most rigorous hemp extract industry standards. These audited criteria ensure trusted and reliable sources of CBD-rich products are available to the public.



These quality standards ensure applicable products are consistent from batch to batch, transparently sourced, free of contaminants, and persistently audited.

All products with the Realm of Caring's Quality Seal meet the following criteria and more:

- Quality controls ensuring a consistent profile of CBD and other cannabinoids and terpenes in every bottle
- Sourced from U.S.-grown hemp
- Hemp grown using organic principles
- Processed in FDA-approved facilities
- Tested for heavy metals, pesticides, mold, bacteria, and industrial solvents
- Have 3rd party Certificates of Analysis from ISO-17025 certified labs



FAQ'S:

Most common questions customers ask about CBD-rich hemp extracts.

What is CBD?

CBD is short for “cannabidiol.” Cannabidiol is one plant-based cannabinoid out of dozens that occur naturally in flowering cannabis. Cannabinoids are any compounds that bind to our bodies’ cannabinoid receptors (CB1 and CB2). These receptors send signaling to our endocannabinoid system (ECS) which regulates basic health functions like sleep, appetite, body temperature, blood pressure, and our immune system. CBD also binds to other receptors and affects numerous other biological mechanisms.

Is hemp-derived CBD legal?

Yes. The 2014 Agricultural Act defines industrial hemp as cannabis with less than 0.3% delta-9-THC by dry weight. This law allowed states to establish and oversee hemp growing programs. In 2018, Congress further endorsed commerce in hemp products by prohibiting federal and state agencies from prosecuting individuals and businesses for possession of products certified as hemp.

Is CBD safe?

Yes. No one has ever died from ingesting too much CBD or any other cannabinoid. These compounds have an excellent safety profile. CBD and other naturally occurring cannabinoids found in hemp do not cause psychoactive effects. These molecules are all non-toxic and have been deemed safe for human consumption.

The World Health Organization (WHO) has determined that CBD has:

- No risk of abuse
- No risk associated with long-term use
- No risk of acute overdose
- No LD50 (no lethal dose)

Does CBD have negative interactions with pharmaceuticals?

There are no contraindications. However, taking CBD can change how the body metabolizes other pharmaceutical medications. CBD can inhibit Cytochrome P450 (CYP) enzymes. CYP enzymes are known to metabolize more than half of all pharmaceutical medications. If CBD is taken in conjunction with these drugs, the metabolization of the drug can be delayed and cause its levels in the blood to increase. To avoid these risks, the Realm of Caring Foundation recommends using products high in CBD three hours before or after taking any medications.





What are the benefits of taking CBD and other cannabinoids?

There may be many. CBD is known to bind to various receptors in the body (CB1, CB2, TRPV1, serotonin) and affects numerous other enzymes and biological mechanisms. Cannabinoids have been shown to stimulate the endocannabinoid system, which regulates homeostasis in the body. Our bodies make cannabinoids naturally to send signaling to this system. Plant-sourced cannabinoids also stimulate this system and can help supplement endocannabinoid deficiencies. CBD benefits may include:

- Support healthy immune function*
- Reduce exercise-induced inflammation*
- Regulate stress and anxiety*
- Induce a calm, focused mind*
- Improve energy and mood*

How to find a high-quality hemp extract.

Hemp-sourced CBD has an excellent safety profile, but consumers should ensure that the CBD they are ingesting comes from reputable sources. All hemp CBD products are not created equal when it comes to cleanliness and cannabinoid profile consistency. Unfortunately there are still reports of people becoming ill from taking “CBD oil” that has been adulterated with synthetic chemicals or grown in contaminated soil.

Know your source! The following is a list of guidelines for ensuring hemp extract products are clean, properly labeled, and consistent.

- 1) **Hemp should be grown and processed domestically.** United States hemp programs have the strictest growing and processing oversight. Processing should be performed in facilities following the FDA’s current Good Manufacturing Practices (cGMP).
- 2) **Products should be tested to ensure they are not contaminated.** Hemp is a bioaccumulator, which means it can pull toxins out of the soil. Any products sourced from hemp grown in contaminated soil will be harmful. Toxins like heavy metals, pesticides, mold, bacteria, and

*These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, cure, mitigate, treat or prevent any disease.

industrial solvents are all possibilities. If the manufacturer does not have a Certificate of Analysis (CoA) from an ISO-certified third-party lab that tests for these contaminants, the product should be assumed to be toxic.

- 3) **Hemp farming principles should be organic.** The hemp should always be grown in soil that is certified organic. Farming practices should always be organic as well. Since the USDA began certifying hemp as organic in 2018, few manufacturers have the USDA-organic label on their products. A trusted CoA is the next best thing.
- 4) **CBD isolate products have pros and cons.** Most products labeled as “CBD oil” are CBD crystals that have been added to a carrier oil. These products are often labeled as being “THC-free.” It is still possible to fail a drug test from using CBD isolate. Also, pure CBD has a narrow, bell-shaped response curve, so taking too little has the same effect as taking too much. Finding an optimal serving size can be difficult. The FDA states that CBD cannot be added to food, drinks, or dietary supplements. To ensure FDA compliance, only full-spectrum hemp extracts *naturally* rich in cannabidiol are consistent with these regulations.
- 5) **Seek consistent hemp cultivars.** Most “full-spectrum” hemp products are sourced from multiple farmers growing different types (cultivars) of hemp. In such cases, a product’s cannabinoid profile will vary from batch to batch. It is ideal to choose hemp manufacturers that use the same variety of hemp, similar farming practices, and extraction methods year after year. Doing so will ensure a product that works well today will have the same effects bottle after bottle.
- 6) **Seek experienced hemp farmers.** Most farmers are new at growing hemp. Domestic hemp farming has only been legal since January 2015, so the nuances of proper growing are still being learned. Manufacturers that have been growing cannabis for more than a decade typically have less variance in cannabinoid profiles. Well-established hemp extract manufacturers with the most success stories will be the best predictor of future results.

Will I test positive on a drug test?

There is a possibility. Hemp-sourced products may contain trace amounts of THC. Federal law allows for up to 0.3% delta-9-THC by dry weight. While these THC levels are too low to create the euphoric high associated with marijuana, THC can be stored in the body and trigger a positive drug test.

How much should I take?

There are several variables that impact the effects of CBD-rich hemp extracts. Those include overall health, body weight, and natural drug sensitivity. Cannabinoids can also be used as supplements to a healthy, active lifestyle.

- **Start with the serving size recommendation.** Manufacturers’ products will list suggested serving sizes based on CBD or total hemp extract content. Cannabinoid content will vary from one serving size to the next. Most servings provide between 5 mg and 40 mg of CBD. Consult with a healthcare professional based on your health situation.
- **Increase serving size to find optimal personal results.** Each person’s “sweet spot” will vary considerably. Optimal serving sizes range from 5 mg to hundreds of mg of CBD daily. It is best to keep track of how much was taken each day and the subjective experience. More is not necessarily better, so having discipline and keeping a log is encouraged. Multiple manufacturers and some non-profits recommend increasing the serving size twice a week, although this frequency is not an official medical standard.



- **Commit to at least 30 days.** It can take weeks of increasing the serving size to find your optimal amount. The body will be absorbing cannabinoids during this time. The number of receptors in the endocannabinoid system can also begin increasing once plant-based cannabinoids are introduced. Instead of expecting profound effects immediately, be prepared to use the CBD-rich products for at least a month.
- **Expect optimal serving sizes to vary greatly from person to person.** Several non-profits offer guidance on how much CBD should be taken for a variety of reasons. A few are listed on the back of this guide to assist you. Commonly recommended starting amounts range from 5 mg to 25 mg a day, depending on the situation. There is currently not enough data to predict precisely how much any given person should take.
- **Keep a CBD Journal.** To track how CBD-rich hemp extracts are affecting health, consumers should keep a log of their daily serving size and their experience. Areas to pay attention to would be joint inflammation, stress, ability to focus, mood, and restfulness. Keeping record will help people determine which products and how much of each work best. Consistently taking the products and logging the results is key.

Download a blank journal to track the amount taken each day at ecsdistribution.com/journal or by scanning the QR Code on the back of this guide.

How often should I take CBD?

Different delivery methods can have considerable variations in effects as well as the length of time cannabinoids stay in the body tissues. Low amounts of inhaled CBD will leave the body faster than larger doses that are swallowed. Specifically, CBD has an 18 to 36-hour half-life, meaning the levels in the blood will drop by 50% in this time frame. Depending on the circumstances, people can take CBD-rich products several times a day to keep blood levels elevated. Hemp extracts can be taken on a daily schedule, situationally, or as desired.

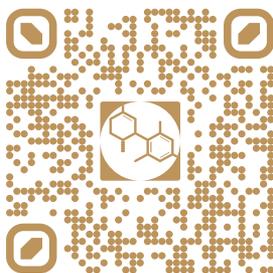
Delivery Methods

<p>INHALATION</p> 	<p>Seconds to enter the bloodstream</p> <ul style="list-style-type: none"> › Fastest way to introduce CBD into the bloodstream › Effects diminish faster › Risks of contaminated products are greatest with inhaled products › Avoid propylene glycol in inhaled products › Inhalation devices are available with refillable containers or disposable “vape pens”
<p>LIPOSOMAL</p> 	<p>Few minutes to enter the bloodstream</p> <ul style="list-style-type: none"> › Water-soluble option (cannabinoids are not naturally water-soluble) › Liposome products wrap a water-soluble lipid around cannabinoids for better absorption › Often mixed into glass of water › Can be used sublingually (under the tongue) › Larger percentage of cannabinoids enter bloodstream
<p>OIL/SUBLINGUAL</p> 	<p>5–10 minutes to enter the bloodstream</p> <ul style="list-style-type: none"> › Absorbs through mucus membranes under tongue › At least 30 seconds to absorb. More oil takes longer to absorb. › Sublingual is the most common delivery method
<p>TRANSDERMAL</p> 	<p>30 minutes to enter the bloodstream</p> <ul style="list-style-type: none"> › Slow, timed release (day, multiple days) › Useful for people who cannot easily take products orally › Useful for active lifestyles
<p>CAPSULE/SWALLOWED</p> 	<p>45–90 minutes to enter the bloodstream</p> <ul style="list-style-type: none"> › Processed through digestive system › Less percentage of cannabinoids absorbed by the body compared to other ingestion methods › Effects felt longer
<p>TOPICAL</p> 	<p>About 30 minutes to absorb</p> <ul style="list-style-type: none"> › Infuses into skin and surrounding tissue › Categorized as “cosmetics” with FDA › Promotes healthy skin

Further Research

There are several reliable sources of information about CBD's effects from respected non-profits. For further reading, we recommend the following sources:

- Realm of Caring Foundation (RealmOfCaring.org)
- Project CBD (projectcbd.org)
- American Cannabis Nurses Association (cannabisnurses.org)
- International Association for Cannabinoid Medicines (cannabis-med.org)



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your CBD journal.



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