

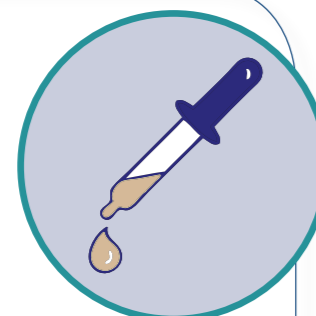
## CBD Oil\*/Hemp CBD Oil\*

An extract obtained from the flowering portions of the hemp plant, then dissolved in another oil (coconut, sesame, etc). It typically contains no THC and has no psychoactive properties.<sup>29</sup>

## Cannabis Oil\*

Concentrated cannabis extracts, often containing very high concentrations of THC<sup>30,31</sup>

Why is this term considered ambiguous? The constituents are often unclear; the relative amounts of cannabinoids are not always specified.



## Nutraceuticals & Dietary Supplements

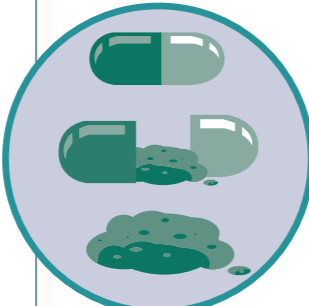
### Nutraceutical\*

A term derived from combining “nutrition” and “pharmaceutical;” there is no regulatory definition and it does not fall within a recognized regulatory category of the FDA<sup>32,33</sup>

- Individual nutraceuticals do not undergo testing for medical or health benefits



## Dietary Supplement



A product (other than tobacco) intended for ingestion to add further nutritional value to supplement the diet that contains one or more of the following dietary ingredients (or a constituent/extract of these ingredients)<sup>34,35</sup>

- Vitamin
- Mineral
- Amino acid
- Concentrate
- Metabolite
- Herb or other botanical
- Substance to increase total dietary intake

Dietary supplements are FDA regulated as foods, but the FDA has stated that CBD may not be marketed as a dietary supplement.<sup>36</sup>

## Regulatory Guidelines<sup>3</sup>

<sup>3</sup>In this document, federal laws and acts are cited because, although an individual state may enact its own laws regarding cannabis, the federal laws (in theory) supersede any state laws in place.

## FDA-Approved Medication

A designation granted by the Center for Drug Evaluation and Research after rigorous placebo-controlled studies to guide correct dosing, safety, and efficacy of new compounds for medical use.<sup>37</sup> Demonstration of product consistency is also required for FDA approval.



## DEA-Drug Scheduling

Drugs, substances, and certain chemicals used to make drugs are classified into five distinct categories<sup>11</sup> (or schedules) at the federal level by the DEA; these depend upon the drug’s acceptable medical use in treatment in the US, their relative abuse potential, and the likelihood of causing dependence when abused<sup>38</sup>



<sup>3</sup>Schedule 1 is the most restrictive designation.

## Agricultural Act of 2014

Known as the “Farm Bill,” this was signed by President Obama on February 7, 2014. Section 7606 highlights the “Legitimacy of Industrial Hemp Research,” authorizing industrial hemp (Cannabis plants containing 0.3% or less THC by weight) to be used in research and pilot programs by institutions of higher education or state<sup>5</sup>



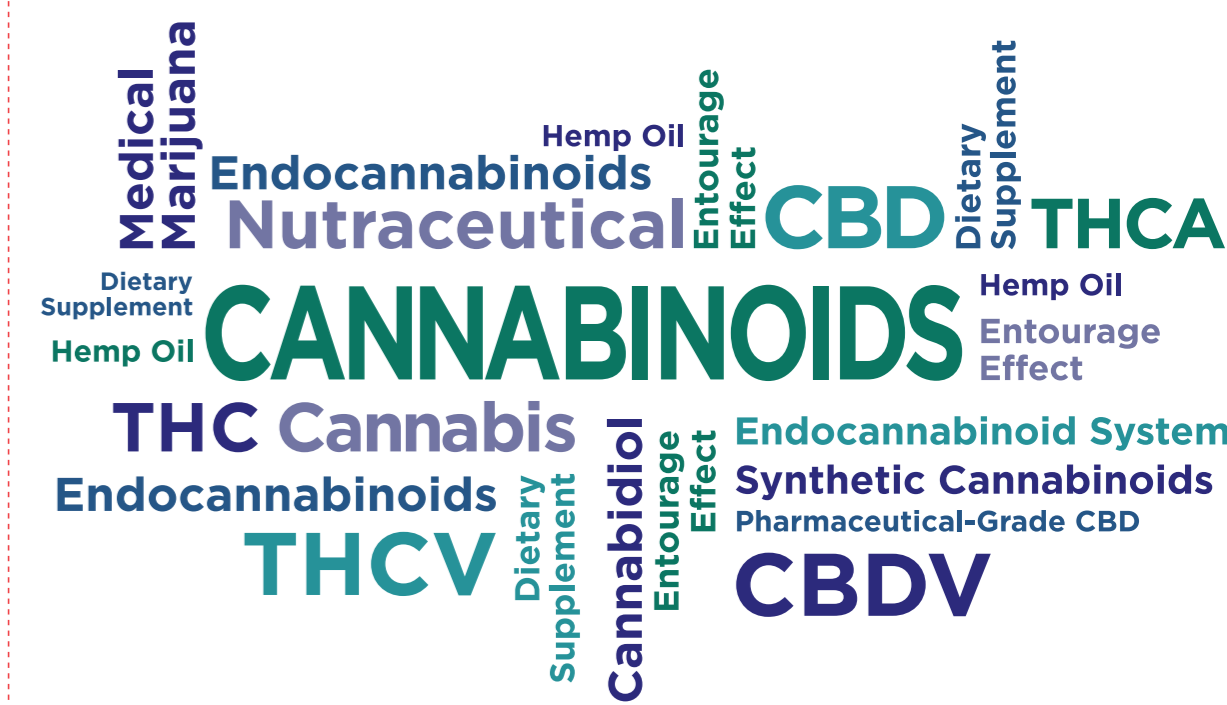
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## Glossary of Cannabinoid Terms



To continue learning about cannabinoid science, visit: [www.cannabinoidclinical.com](http://www.cannabinoidclinical.com)

\*For this term there is no scientifically accepted definition.

## Cannabis-Related Terms

### Cannabis

“Cannabis” is the generic term for products of the plant, *Cannabis sativa* L.

- Cannabis is a widely distributed plant<sup>1</sup> that is one of the oldest sources of fiber, food, oil, and medicine<sup>2</sup>
- Cannabis, and all of its cannabinoid components, is a controlled substance classified as a Schedule I agent in the US; this classification denotes a drug with a high potential for abuse and no currently accepted medical use<sup>3</sup>

### *Cannabis sativa* L.

The scientific name of the cannabis plant<sup>4</sup>

The two varieties of cannabis – *sativa* and *indica* – are considered subspecies; *Cannabis sativa* subsp. *sativa* contains <0.3% (dry weight) of THC and *Cannabis sativa* subsp. *indica* contains >0.3% of THC.<sup>4,5</sup> Current botanical thinking, however, now refers only to a single species – *Cannabis sativa* L.

## Cannabinoids

### Cannabinoids

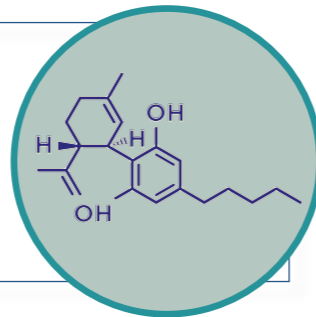
Term used to refer to molecules that are found in the cannabis plant and/or that interact with cannabinoid receptors, as well as the derivatives, and transformation products of those molecules.<sup>6-9</sup> They can be classified as phytocannabinoids, endocannabinoids, or synthetic cannabinoids.

### Endocannabinoids

Chemicals produced by the body<sup>10</sup> that target cannabinoid receptors<sup>11</sup>

### Synthetic Cannabinoids

Cannabinoids produced in the laboratory to structurally or functionally mimic the endocannabinoids or phytocannabinoids<sup>10</sup>



### Phytocannabinoids

Over 100 naturally occurring chemicals found in the cannabis plant with a chemical structure related to endocannabinoids.<sup>10</sup> The most well-characterized, so far, are described below<sup>12</sup>:

- **CBD:** Cannabidiol, one of the major cannabinoids derived from cannabis or synthesized. CBD is under evaluation for its anticonvulsant properties, among other therapeutic uses. CBD has very low affinity at the cannabinoid receptors, type 1 (CB<sub>1</sub>) and type 2 (CB<sub>2</sub>), and is not believed to be psychoactive.<sup>13</sup>
- **THC:** Δ<sup>9</sup>-Tetrahydrocannabinol, a major phytocannabinoid derived from cannabis, is thought to be the pharmacologically most active cannabinoid of the cannabis plant, largely responsible for its psychoactive properties due to its agonist activity at CB<sub>1</sub> receptors (behavioral, cognitive, and psychotropic effects)<sup>13</sup>
- **CBDV:** Cannabidivarin, a variant of CBD with some animal evidence supporting anticonvulsant and other effects under investigation<sup>14</sup>
- **THCV:** Tetrahydrocannabivarin – structurally similar to THC, it is an antagonist at CB<sub>1</sub><sup>15</sup>
- **THCA:** Δ<sup>1</sup>-Tetrahydrocannabinolic acid, the most abundant cannabinoid in cannabis bred for recreational use; as a nonpsychoactive precursor of THC, THCA converts to THC when heated (to temperatures greater than those found in the human body) or smoked<sup>11</sup>

### Terpenes/Terpenoids

The primary aromatic principles found in cannabis, providing the scent and flavor of the cannabis plant<sup>16,17</sup>

### CBD-Rich (sometimes referred to as “Enriched”) Extracts\*

Preparations from cannabis plants that are higher in CBD than plants bred historically for recreation.<sup>18</sup>

The term “enriched” is often used inappropriately.

### FDA-Approved Formulation of CBD\*

Controlled CBD preparation that meets Food and Drug Administration standards of purity, consistency, stability, safety, and efficacy; it can be plant-derived or synthetic.<sup>19</sup>

- ✓ Quality
- ✓ Consistency
- ✓ GAP
- ✓ GMP
- ✓ GCP

## Endocannabinoid System and Related Terms

### Endocannabinoid Receptors

Binding sites for cannabinoids within the brain and body<sup>20</sup>

### Endocannabinoid System

Communication system within the brain comprising identified cannabinoid receptors, the endocannabinoids that target the receptors, and the downstream effects<sup>21,22</sup>



### Entourage Effect\*

This term originates in endocannabinoid science, but is commonly used to suggest that combining multiple constituents of the whole cannabis plant may result in enhanced therapeutic effects. More data in patients are needed to support or refute this theory in specific disease states.<sup>15,23</sup>

Why is this term considered ambiguous? Although the observation of synergy may suggest that adequate efficacy requires a cumulative effect of multiple cannabis constituents, additional testing needs to be done. Preclinical and clinical evidence suggests that some purified cannabinoids are efficacious when administered alone.<sup>15</sup>

## Marijuana and Related Terms

### Marijuana

A dried mixture of cannabis leaves and flowers<sup>12</sup>



### Whole Plant

Concept implying that products derived from the entire cannabis plant may be better than the individual cannabinoids isolated from it (eg, purified CBD-only formulas)<sup>13</sup>

### Recreational Marijuana (RM)\*

Use of cannabis or cannabis products used to induce pleasure, euphoria, relaxation, and to enhance sociability<sup>24</sup>

### Medical Marijuana (MM)\*

Use of cannabis or cannabis products in an attempt to treat disease or alleviate symptoms by patient choice<sup>†</sup>, understanding that there is a lack of placebo-controlled trials supporting the favorable efficacy and safety of these products<sup>26,27</sup>

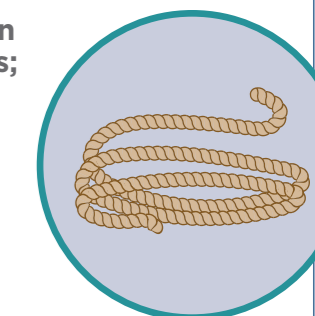
<sup>†</sup>The DEA also recently affirmed maintaining marijuana as a Schedule I substance.<sup>25</sup>



### Hemp

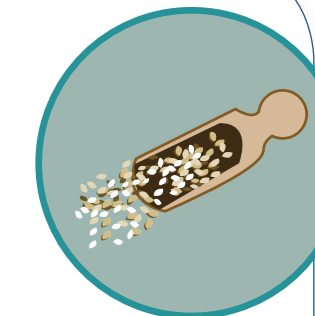
Strains of *Cannabis sativa* L. historically grown for fibrous materials found in stalks and seeds; contain minimal amounts of THC<sup>5</sup> and low levels of CBD.<sup>4</sup> Used industrially to develop items, such as clothing fiber.<sup>4</sup> The flowering portions of the hemp variety may be used to extract CBD.<sup>4</sup> Cannabinoids extracted from hemp plants are considered marijuana and are classified as a Schedule I substance.<sup>27†</sup>

<sup>†</sup>The Controlled Substances Act does not define hemp, per se. Its definition of marijuana includes all parts of the *Cannabis sativa* L. plant, and the seeds and resin extracted from any part of such plant; it exempts all marijuana stalk, fiber, and sterilized seeds (and preparations made from them).<sup>28</sup>



### Hemp Oil\*/Hempseed Oil

An oil extracted from cannabis seeds by cold pressing. It contains only trace amounts of cannabinoids and terpenes, and is high in unsaturated fatty acids; used in paints and varnishes and in manufacturing soap and a wide variety of food products.<sup>4</sup>



\*For this term there is no scientifically accepted definition.