

Cannabis vs. Hemp

What's The Difference?

Cannabis and hemp both come from the *Cannabis sativa* L. plant, but hemp is legally defined as having no more than 0.3% delta-9 tetrahydrocannabinol (Δ 9THC, the main ingredient that gets people "high") on a dry weight basis.

Cannabinoids

Cannabinoids are a group of naturally-occurring, biologically active compounds that are unique to the *Cannabis sativa* L. plant. Both hemp and cannabis contain more than 100 cannabinoids. The two principal cannabinoids are:

- Tetrahydrocannabinol (THC) is the main psychoactive chemical in cannabis. It exists in the plant in a non-psychoactive form called tetrahydrocannabinolic acid (THCa) that converts to psychoactive Δ 9THC when exposed to heat (e.g., smoking, vaporizing, or baking).
- Cannabidiol (CBD) exists in the plant as cannabidiolic acid (CBDA); both forms are generally considered to be non-psychoactive.¹

What's Legal & What Isn't?

Cannabis is still federally illegal in the United States (U.S.) and a Schedule I drug under the Controlled Substances Act (CSA), although over 40 U.S. states have legalized medical and/or recreational cannabis use to varying extents.

The Agriculture Improvement Act of 2018 ("2018 Farm Bill") removed hemp and its derivatives from the CSA nationally, and thus the Drug Enforcement Agency (DEA) no longer regulates hemp as an illegal drug. Instead, the bill placed regulation of hemp farming under the authority of the United States Department of Agriculture (USDA) and explicitly preserved the U.S. Food and Drug Administration's (FDA) authority over hemp-derived products intended for human consumption.^{2,3}

Why The Legal Differences Are Important



Currently, the only hemp-derived products that the FDA considers to be generally recognized as safe (GRAS) for ingestion and approved for use in products intended for human consumption are hulled hemp seed (GRN765), hemp seed protein powder (GRN771), and hemp seed oil (GRN778). The FDA has been clear that non-GRAS, hemp-derived cannabinoids and other derivatives are not approved for use in foods, cosmetics, or dietary supplements.³

Despite the FDA's stance, many U.S. states have developed regulations allowing sale of non-GRAS hemp products intended for human consumption. Those states may apply the 0.3% Δ 9THC limit to extracts or all hemp-derived products, and not just to inhalable products. As a result, heavier, orally consumed products (e.g., beverages, gummies, and candies) are being produced with intoxicating amounts of Δ 9THC, often exceeding the 50-100mg THC typically allowed in a package of cannabis edibles. Products made with other intoxicating cannabinoids that do not count towards the 0.3% Δ 9THC limit for hemp are also being sold. They are typically not sold by licensed, age-restricted cannabis retailers, but rather by smoke/vape shops, liquor stores, gas stations, and other areas where underage consumers can access these products! Because these hemp products occupy a legal gray area, they can be produced with minimal oversight, move in interstate commerce, and are often widely sold without any legal age limits, posing critical public health risks.

What Are Artificially Derived Cannabinoids?

After hemp was removed from the CSA, and limited only by the concentration of $\Delta 9$ THC, the hemp industry accelerated the development and marketing of numerous other intoxicating cannabinoids. While some of these intoxicating cannabinoids exist in trace amounts in nature, they are generally synthesized by modifying naturally-occurring CBD from hemp and are often called “artificially derived cannabinoids,” which include $\Delta 8$ THC and $\Delta 10$ THC. While the FDA has issued warnings on $\Delta 8$ THC,^{4,5} and a number of U.S. states have expressly prohibited intoxicating cannabinoids synthesized from hemp derivatives, both edible and inhaled $\Delta 8$ THC products are being sold widely.



Other novel, intoxicating cannabinoids are being produced through chemical modification of hemp-derived CBD and sold across the U.S. as hemp products. These compounds include hexahydrocannabinol (HHC), tetrahydrocannabinol-O-acetate (THC-O), and tetrahydrocannabiphorol (THC-P; over 30 times more potent than $\Delta 9$ THC). Compared to naturally-occurring cannabinoids, little is known about the short- or long-term health effects of artificially derived cannabinoids, but they generally cause intoxication and have many of the same adverse effects that cannabis can have.

What Can We Do?

Between 2017 and 2019, cases of accidental pediatric exposures to cannabinoid products increased 1,375%, nearly one quarter of which required hospitalization; the proportion of pediatric exposures from hemp-derived products is unclear.⁶ Reports of harm from $\Delta 8$ THC and other products claiming to be derived from hemp have multiplied.^{4,7,8} To protect children and prevent further public health harms, important state and/or local policy options to control hemp products may include:

- Prohibiting the sale of intoxicating hemp compounds, or limiting them to licensed cannabis retailers (if your state allows sale of cannabis)
- Prohibiting the sale of artificially derived cannabinoids
- Implementing age restrictions (age 21+) on sales of hemp-derived compounds
- Not allowing hemp products, packaging, or associated marketing to be attractive to children

References

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