

STRAIGHT FACTS on CBD



Cannabidiol (CBD) is everywhere, but how can you be sure of what you're buying? Not all CBD products are created equal — including where they come from and how they are developed, tested, and approved for human use.

WHERE DOES CBD COME FROM?



CBD comes from the cannabis plant, which also contains tetrahydrocannabinol (THC), the chemical that can cause the “high” associated with marijuana.¹

Low levels of CBD and THC can also be found in a type of cannabis plant called hemp.²



CBD is extracted from cannabis plants, including the hemp variety. Other cannabinoids and elements are removed during the purification process.³ Standards for CBD purification vary widely for non-FDA approved forms of CBD versus products approved by the Food and Drug Administration (FDA).^{4,5}

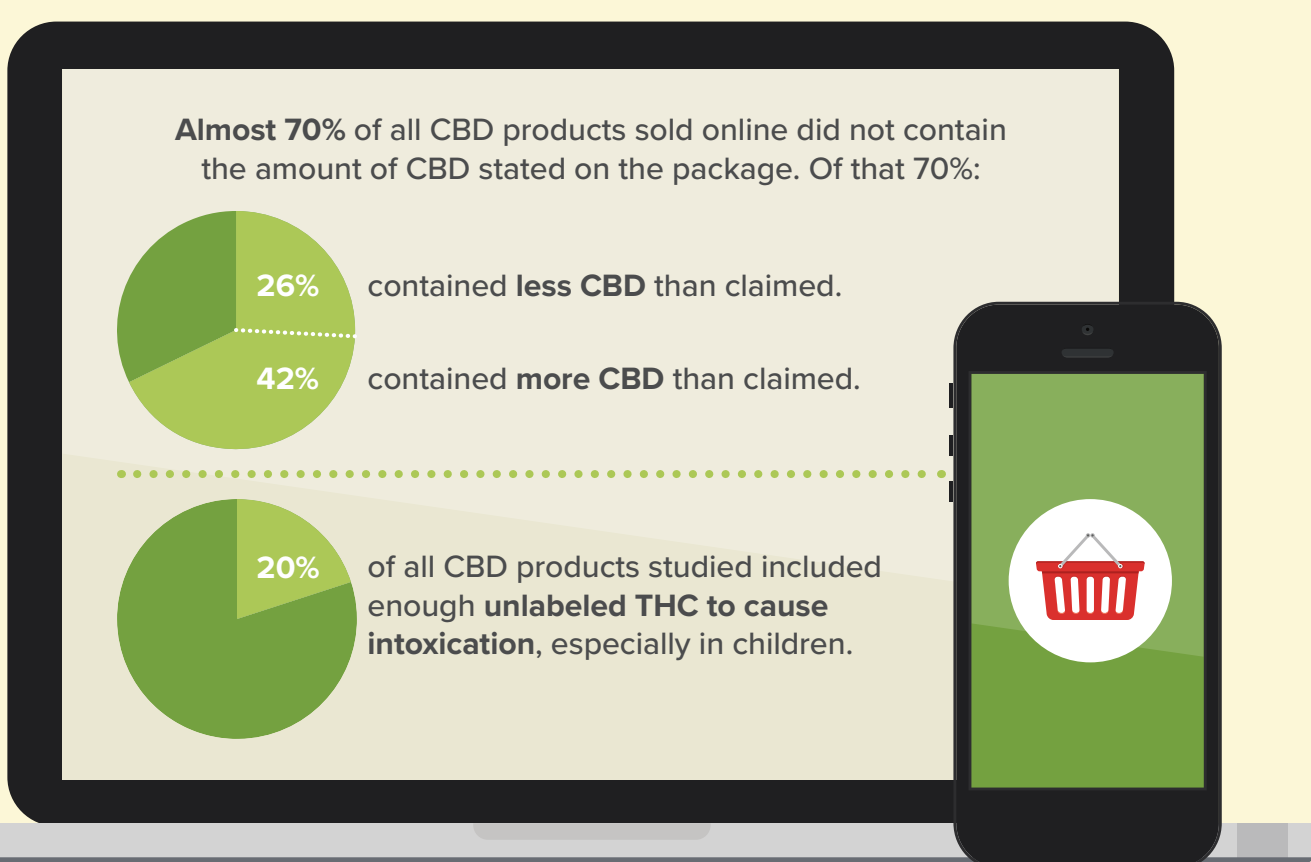
A 2018 study published in *Nature* found a concerning lack of consistency in tests to ensure that popular commercial (non-FDA approved) cannabinoid products contain what their labels claim.⁴



FDA-approved products are required to meet purification, content and dosing standards. They are rigorously tested in controlled clinical trials to understand the safety profile and efficacy. So far, the only rigorous studies of CBD that adhere to FDA standards have been in seizures, leading to FDA approval of a prescription version of CBD.^{6,7,8}

⚠️ HOW DO I KNOW IF MY CBD IS SAFE? ⚠️

Although CBD products are widely available, it is hard to know the benefits and risks of CBD and what you're getting with non-FDA-approved CBD. A 2017 study in the *Journal of the American Medical Association* found that:⁹



The FDA also evaluated some retail/online CBD products and found they did not contain the levels of CBD that they claimed.¹⁰

HOW DO I KNOW IF IT'S LEGAL?

More Americans have access to CBD than ever before, but the laws can be confusing. For example, did you know the type of cannabis plant CBD comes from determines whether it is legal and how it can be sold in the U.S.?



- MEDICAL MARIJUANA**^{2,11,12}
Federally illegal; only available in medical marijuana states
- HEMP-DERIVED CBD**^{2,13}
Federally legal but state-by-state legality unclear
- FDA-APPROVED CBD**^{5,14}
Available in all states by a clinician's prescription

- ⚠️ CAUTION**
 - Cannabis-derived CBD products are considered medical marijuana.
 - Medical marijuana products are not FDA approved.
 - Products haven't been shown to meet FDA standards for safety and effectiveness or regulated on a federal level to ensure consistency or quality.
- ⚠️ CAUTION**
 - It is illegal to promote these products for medical or health uses.
 - The FDA has not approved their use in food or beverages.
 - Products haven't been shown to meet FDA standards for safety and effectiveness, or regulated on a federal level to ensure consistency or quality.
- Only FDA-approved medicines can be marketed for FDA-specified medical or health uses.
 - There is only one FDA-approved CBD medicine.
 - FDA-approved medicines are accessible only by a clinician's prescription in pharmacies.

WHAT IS MEDICAL MARIJUANA?

Medical marijuana is the use of cannabis to treat disease. Although there is a lack of scientific evidence to support the use of medical marijuana products, they are dispensed to ease disease symptoms.^{2,15}



THE BOTTOM LINE

Like any medicine, CBD products should be evaluated for safety and efficacy, as well as required to meet FDA quality standards. The FDA is currently evaluating how to ensure products sold online or in stores are safe for consumer use.

FDA approval of the first cannabis-plant based medicine for a distinct set of diseases demonstrated how CBD should be studied to evaluate its safety profile and effectiveness for broader consumer use, opening the door to further studies of CBD in other medical conditions.

Visit www.StraightFactsCBD.com to learn more.

1. Rosenberg EC, Tsien RW, Whalley BJ, Devinsky O. Cannabinoids and epilepsy. *Neurotherapeutics*. 2015;12:747-768. 2. Mead A. The legal status of cannabis (marijuana) and cannabidiol (CBD) under US law. *Epilepsy Behav*. 2017;70:288-291. 3. ElSohly M, Gul W. Constituents of Cannabis sativa. In: Pertwee RG, ed. *Handbook of Cannabis*. Oxford, United Kingdom: Oxford University Press; 2014. p. 3-22. 4. Jikomes N, Zoorob M. The cannabinoid content of legal cannabis in Washington state varies systematically across testing facilities and popular consumer products. *Nature Scientific Reports*. 2018;8:4519. 5. US Food and Drug Administration website. How drugs are developed and approved. www.fda.gov/Drugs/DevelopmentApprovalProcess/HowDrugsareDevelopedandApproved. Accessed June 17, 2019. 6. Devinsky O, Cross JH, Laux L, et al. Trial of cannabidiol for drug-resistant seizures in the Dravet syndrome. *N Engl J Med*. 2017;376(21):2011-20. 7. Thiele EA, Marsh ED, French JA, et al. Cannabidiol in patients with seizures associated with Lennox-Gastaut syndrome (GWPCARE4): a randomized, double-blind placebo-controlled phase 3 trial. *Lancet*. 2018;391:1085-1086. 8. Devinsky O, Patel AD, Cross JH, et al. Effect of cannabidiol on drop seizures in the Lennox-Gastaut syndrome. *N Engl J Med*. 2018;378(20):1888-97. 9. Bonn-Miller MO. Labeling accuracy of cannabidiol extracts sold online. *JAMA*. 2017;318(17):1708-1709. 10. US Food and Drug Administration website. Warning letters and test results for cannabidiol-related products. <https://www.fda.gov/newsevents/publichealthfocus/ucm484109.htm>. Accessed June 17, 2019. 11. Small E, Marcus D. Hemp: a new crop with new uses for North America. In: Janick J, Whipkey A, eds. *Trends in New Crops and New Uses*. Alexandria, VA: ASHS Press; 2002:284-326. 12. Chandra S, Lata H, ElSohly MA, Walker LA, Potter D. Cannabis cultivation: methodological issues for obtaining medical-grade product. *Epilepsy Behav*. 2017;70:302-312. 13. US Food and Drug Administration website. Statement from FDA Commissioner Scott Gottlieb, M.D., on signing of the Agriculture Improvement Act and the agency's regulation of products containing cannabis and cannabis-derived compounds. <https://www.fda.gov/newsevents/press-announcements/statement-fda-commissioner-scott-gottlieb-md-signing-agriculture-improvement-act-and-agencies>. Accessed June 17, 2019. 14. National Institutes of Health website. Guidelines for the use of non-pharmaceutical grade compounds in laboratory animals. oacu.nih.gov/sites/default/files/uploads/araac-guidelines/pharmaceutical_compounds.pdf. Accessed June 17, 2019. 15. Sevigny EL, Pacula RL, Heaton P. The effects of medical marijuana laws on potency. *Int J Drug Policy*. 2014;25:308-319.