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Maryland Poison Center
UNIVERSITY OF MARYLAND SCHOOL OF PHARMACY

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The Maryland Poison Center's Monthly Update: News, Advances, Information

Delta-8 distilled

Delta-8-tetrahydrocannabinol (delta-8) hit the news in early 2021 after quietly entering the cannabis market over the last couple of years. Delta-8 is one of many cannabinoids found naturally in *Cannabis spp* (*Clin Pharmacol Ther*; 1973:14(3):353-357). It is structurally and pharmacologically similar to the more common and prevalent delta-9-THC. The key difference in the structure is the position of a double-bond. Companies that market delta-8 tout it as legal under the Agricultural Improvement Act (better known as the 2018 Farm Bill), which legalized products derived from hemp as long as it contains less than 0.3% delta-9-THC. This is questionable because the delta-8 in hemp is present in miniscule concentrations. Production of commercial quantities of delta-8 is through conversion of a major cannabinoid from hemp, cannabidiol. Cannabidiol is readily converted to delta-8 and delta-9 THC through chemical reactions widely available online.

Delta-8 has similar clinical effects to delta-9 including euphoria, confusion, tachycardia, relaxation, tranquility, and mild hallucinogenic effects. One study from 1973 compared the effects of 20 mg delta-8, 40 mg delta-8, and 20 mg delta-9 and found that delta-8 is about 2/3 as potent as delta-9 (*Clin Pharmacol Ther*; 1973:14(3):353-357). Besides this study and some animal data, comparative data in humans are lacking and anecdotal reports are clearly inadequate to describe the differences between the two compounds. Anecdotal reports often describe delta-8 as "weed light" and state that it produces more of a body high with less hallucinogenic effects than delta-9 (https://weedmaps.com/learn/dictionary/delta-8-tetrahydrocannabinol). Users sometimes report that the high produces less anxiety. Additionally, anecdotal reports suggest rapid onset of tolerance necessitating higher doses to achieve similar euphoric effects.

Delta-8 is available in many forms including edibles (gummies, baked goods), vapes, dabs, and infused plant material. In a study commissioned by the US Cannabis Council, 16 samples purported to be delta-8 were sourced in April of 2021 from various states. The samples were analyzed by ProVerde Laboratories. All but one of the samples contained delta-9-THC at concentrations above the legal limit of 0.3%. Some samples contained lead and other metals (US Cannabis Council from https://irp.cdn-website.com/6531d7ca/files/uploaded/USCC%20Delta-8%20Kit.pdf).

The largest concern with delta-8 is the lack of oversight with manufacturing and application of current laws. It is available in convenience stores and online in formulations that may be enticing to children. Management of a patient after ingesting or inhaling delta-8 is supportive care (e.g., benzodiazepines for agitation and observation with attention to airway for sedation). Testing via urine drug screen may identify "cannabinoids" either because of lack of specificity in the test or because of contamination with delta-9-THC. The American Association of Poison Control Centers is actively monitoring for cases of delta-8-THC. Call your local poison center to report any cases at 800-222-1222.

Did you know?

Recent publications have highlighted increasing incidence of nitrate/nitrite poisonings reported to US poison centers.

Bottei and Houselog identified a large increase since July of 2020 with 28 cases reported from July 2020 to March 2021 compared with 23 cases reported from June 2014 to June 2020. These reports are uncommon, but the almost 10-fold increase
is concerning nonetheless.
(Clin Toxicol, 2021. DOI: 10.1080/15563650.2021.1930031)

James Leonard, PharmD, DABAT
Clinical Toxicologist

@MPCToxTidbits