

Delta-8 THC and other THC Analogues: Health and Consumer Safety Considerations

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Presentation to the Washington State House Commerce & Gaming Committee

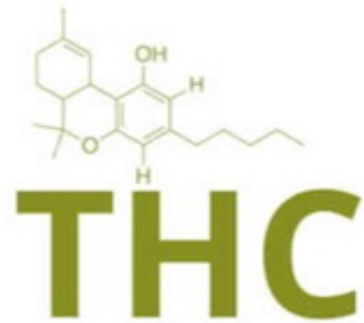
October 21, 2021

Disclosures and Disclaimers

I do not have anything to disclose.

This presentation is my own and does not necessarily represent an official position of CANNRA or of any of the state agencies with whom I work.

>100 Cannabinoids



HOME > CULTURE > CULTURE FEATURES

JANUARY 18, 2021 9:00AM ET

How Some THC Is Legal — For Now

Delta-8-THC — a less-potent cousin of famed Delta-9-THC — is legal enough to sell in most states. But how does it work? And will the DEA shut it down?

By **SETH KING**

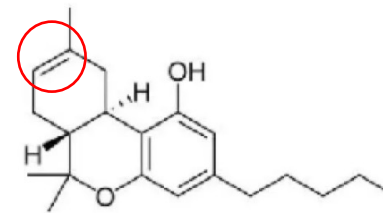


This Drug Gets You High, and Is Legal (Maybe) Across the Country

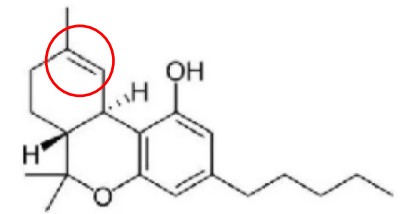
A once-ignored derivative of hemp has become a hot seller for people looking for a loophole around marijuana laws.

What are Delta-8, 9, and 10 THC?

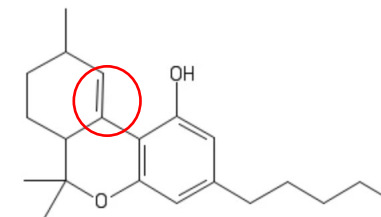
- THC has several isomers (delta-8, delta-9, delta-10)
- Delta-8 and Delta-10 are chemically different from Delta-9 THC by the location of one double bond
- Also psychotropic
 - The World Health Organization estimates D8 is 50-75% as potent as D9)



delta-8-THC



delta-9-THC



Delta-10-THC

Why hasn't delta-8 been a focus of the market until recently?

- Most states regulating cannabis have defined THC as Delta-9 THC
- Other isomers only naturally present in the plant in small quantities
- 2018 farm bill --> hemp/CBD
 - CBD can be synthetically converted into delta-8, delta-9, or delta-10 THC using solvents (e.g., benzene, ethanol) and acids (e.g, sulfuric acid, nitric acid, etc.).
- Farm bill leaves Delta-8 (and other THC isomers) in a gray area of legality (largely outside of regulatory control at present)

KETV Investigation: 'Weed light;' popular hemp product gets people high; DEA investigates
'People getting high,' Cannabinoid conundrum with Delta 8 THC?

This Drug Gets You High, and Is Legal (Maybe) Across the Country
A once-ignored derivative of hemp has become a hot seller for people looking for a loophole around marijuana laws.

Delta 8 THC billed as 'legal' marijuana

A new product is being touted as legal marijuana. It will get you high without a prescription, but law enforcement officers have a warning.

Posted 2 days ago

Markets
Hemp's (Maybe) Legal High Offers Growing Allure

Federal laws and guidance on the topic

- **2018 Farm Bill:**

“The plant species *Cannabis Sativa* L. and any part of that plant, including the seeds thereof and all derivatives, extracts, cannabinoids, **isomers**, acids, salts, and salts of isomers, whether growing or not, **with a delta-9 THC concentration** of not more than 0.3% on a dry weight basis.”

- **DEA Clarification in Federal Register Vol. 85 No. 163, Aug. 21, 2020:**

“All synthetically derived tetrahydrocannabinols remain schedule I controlled substances.”

What are we seeing on the market?

- Delta-8 products being advertised in mainstream outlets nationwide
- Increasingly, Delta-10 products
- Largely vapes/oils, edibles
- Marketed as a “high without the mental side effects” (e.g., paranoia)
- Marketed with medicinal claims
- Available online, in hemp markets, in state-regulated marijuana markets



What are the potential health and safety risks?

Areas of public health concern:

- **THC isomers are psychotropic and impairing**
- **Consumer awareness:**
Issues with packaging, labeling, warnings
- **Youth access issues:**
Widely available online and in hemp markets
- **Processing and testing:**
Contaminants and byproducts, total THC testing, testing records for recalls
- **Undermines the regulated market**

Delta-8-THC Promises to Get You High Without the Paranoia or Anxiety

New Leafreport Research Reveals More Than Half of Hemp-Derived Products Tested Had Illegal Levels of Delta-9 THC

The report found that 63% of tested delta-8 THC products contained an incorrect amount of delta-8.

June 15, 2021

Posted by Tony Lange

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NEWS

Newsweek

Most Americans Think Marijuana THC and CBD Are the Same Chemical, Poll Says

BY BENJAMIN FEARNOW ON 4/8/21 AT 3:27 PM EDT

"Dangerous Delta-8?" Mass CBD Manufacturer High Purity Natural Products Warns Consumers And Manufacturers About Potential Undetected And Harmful Chemicals

Thousands of CBD and Delta 8 THC Products Contaminated With Bleach Warns Industry Experts

October 06, 2020 00:54 ET | Source: Fresh Bros™

Poison Center Reports on Delta-8 Products



FACT SHEET Emerging Public Health Concern: Delta-8 THC

- Delta-8 tetrahydrocannabinol (THC) is a cannabinoid component of *Cannabis sativa*. This chemical is distinct from delta-9 THC, the main psychoactive compound found in marijuana.
- Delta-8 THC can be extracted and made from cannabidiol (CBD) in the hemp plant. However, its effects on the body are different from CBD.
- Although less psychoactive than delta-9 THC, delta-8 THC has psychoactive properties that can cause clinically significant toxicity.
- Federally, delta-8 THC is unregulated since it is different from delta-9 THC.
- Delta-8 THC appeals to youth seeking a 'legal high'. It is available as fruit-flavored gummies and in vape solution. The colorful fruit-flavored gummies can be attractive to young children.
- Recently in a nearby state, two cases of severe adverse reactions to delta-8 THC have been reported in children.
 - The children ingested their father's gummies, purchased at a vape shop.
 - They became symptomatic with deep sedation and slowed breathing with initial increased heart rate progressing to slowed heart rate and blood pressure.
 - Both children were admitted to the intensive care unit for further monitoring and oxygen supplementation.
- Exposures to delta-8 THC have also been reported in adults with products that were mistaken for CBD-like products. These exposures led to symptoms consistent with cannabinoid intoxication.
- Delta-8 THC can cause symptoms similarly observed during cannabinoid intoxication, including:
 - Lethargy
 - Uncoordinated movements, decreased psychomotor activity
 - Slurred speech
 - Increased heart rate progressing to slowed heart rate
 - Low blood pressure
 - Difficulty breathing
 - Sedation
 - Coma
- Long-term effects of using delta-8 THC are unknown.
- There is no specific antidote. Treatment is largely symptomatic and supportive care.
- Clinicians should be vigilant in observing patients presenting with marijuana-like symptoms who do not report a marijuana exposure or history of use.
 - Symptomatic patients should be questioned about their use of CBD or delta-8-THC products.
 - It is unclear whether delta-8-THC can be detectable or cross-reacts during routine testing for delta-9-THC.

Seek help for Substance Use Disorder as soon as possible. Call the Substance Abuse and Mental Health Services Administration (SAMHSA) at 800-662-HELP (4357), or visit www.FindTreatment.gov to locate support and assistance for Substance Use Disorder in your community.

For those who have questions about drug safety or any substance call your Michigan Poison Center at

1-800-222-1222

550 E. Canfield, Suite # 354
Detroit, Michigan 48201

www.mipoisonhelp.org

THIS IS AN OFFICIAL WEST VIRGINIA SUBSTANCE ABUSE ALERT: # WV003



SUBSTANCE ABUSE ALERT
#WV003

TO: Hospital emergency departments, community health providers, law enforcement agencies, Director, WV Emergency Medical Services, Regional Medical Directors, emergency medical services personnel, local health departments, WV Office of Drug Control Policy, WV Office of Epidemiology and Prevention Services, State Epidemiology Outcomes Workgroup members, local health departments, WV Board of Education

FROM: Elizabeth J. Scharman, Pharm.D., DABAT, BCPS, FAAC; Director, West Virginia Poison Center

DATE: March 10, 2021

DISTRIBUTION: As deemed appropriate within each agency receiving this alert

Reported Cases of Adverse Reactions to Delta-8-THC Products in West Virginia

Description:

Delta-8-THC is a cannabinoid component of *Cannabis sativa* that is a double bond isomer of Delta-9-THC, the psychotropic component of marijuana. It can be synthesized from CBD. Its actions on the body are not similar to CBD. Although less psychotropic than delta-9-THC, it does have psychotropic properties and is marketed for its psychotropic effects in fruit flavored candy gummies and vape solution.

It is promoted as being legal since it is not delta-9-THC and can be extracted and concentrated from the CBD in the hemp plant. However, some would argue that the fact it has to be synthesized into its final form puts its legality into question.

Demographics:

In March 2021, two cases of adverse reactions to Delta-8-THC products were reported in adults. In both cases it was mistaken for a product like CBD. In neighboring states, cases are also being reported that have included children requiring Intensive Care Unit admissions after exposure.

In addition to people having unintended consequences from what they thought was CBD, this drug will appeal to adults and adolescents seeking a "legal high". The fruit-flavored gummies are attractive to small children.

Patient Presentation:

Practitioners should be on the lookout for patients presenting with marijuana-like symptoms who do not report or a parent or caregiver does not report, a marijuana exposure. Symptomatic individuals should be asked about their use of CBD or delta-8-THC products.

Delta-8-THC does not elute in the same place as delta-9-THC so the ability to detect, and cross reactivity with the different laboratory tests that hospitals use to detect delta-9-THC, is not characterized fully.

There is no specific antidote. The West Virginia Poison Center is available 24 hours a day for toxicology consultations.

Reporting:

Please report cases of acute delta-8-THC toxicity to the WV Office of Drug Control Policy as you would overdoses from other drugs of abuse.

This message was directly distributed by the West Virginia Poison Center on behalf of the Substance Abuse Early Warning Network (a product of the WV State Epidemiological Outcomes Workgroup and the WV Bureau for Behavioral Health and Health Facilities). Receiving entities are responsible for further dissemination of the information as appropriate to the target audience.

Message Categories:

Network Alert: Conveys the highest level of importance, warrants immediate action or attention.

Network Advisory: Provides important information for a specific incident or situation.

Network Update: Provides updated information regarding an incident or situation.

Page 1 of 1

West Virginia Substance Abuse Early Warning Network # WV003



**SUBSTANCE ABUSE ALERT
#WV003**

TO: Hospital emergency departments, community health providers, law enforcement agencies, Director, WV Emergency Medical Services, Regional Medical Directors, emergency medical services personnel, local health departments, WV Office of Drug Control Policy, WV Office of Epidemiology and Prevention Services, State Epidemiology Outcomes Workgroup members, local health departments, WV Board of Education

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Increases in Availability of Cannabis Products Containing Delta-8 THC and Reported Cases of Adverse Events



Distributed via the CDC Health Alert Network
September 14, 2021, 10:00 AM ET
CDCHAN-00451

Summary

The purpose of this Health Alert Network (HAN) Health Advisory is to alert public health departments, healthcare professionals, first responders, poison control centers, laboratories, and the public to the increased availability of cannabis products containing delta-8 tetrahydrocannabinol (THC) and the potential for adverse events due to insufficient labeling of products containing THC and cannabidiol (CBD).

Background

Marijuana, which can also be called weed, pot, or dope, refers to all parts of the plant *Cannabis sativa L.*, including flower, seeds, and extracts with more than 0.3% delta-9 tetrahydrocannabinol (THC) by dry weight. Any part of the cannabis plant containing 0.3% or less THC by dry weight is defined as hemp.¹ The cannabis plant contains more than 100 cannabinoids, including THC, which is psychoactive (i.e., impairing or mind-altering) and causes a “high”.² CBD is another active cannabinoid found in the cannabis plant that is not psychoactive and does not cause a “high”.

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Issues with packaging, labeling, warnings
- **Youth access issues:**
Widely available online and in hemp markets
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Contaminants and byproducts, total THC testing, testing records for recalls
- **Undermines the regulated market**

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New Leafreport Research Reveals More Than Half of Hemp-Derived Products Tested Had Illegal Levels of Delta-9 THC

The report found that 63% of tested delta-8 THC products contained an incorrect amount of delta-8.

June 15, 2021

Posted by Tony Lange

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October 06, 2020 00:54 ET | Source: Fresh Bros™

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U.S. Cannabis Council report on Delta-8

- Tested 16 Delta-8 products obtained legally from the market
- Testing conducted by ProVerde labs
- Findings:
 - All contained Delta-8 THC
 - Some contained Delta-9 THC (with a mean concentration of more than 10 times the USDA hemp limit of 0.3%)
 - Lead was detected in 4/16 samples
 - Other metals (e.g., copper, chromium, nickel) detected in 7/16 samples
 - Residual solvents detected in a majority of samples
 - 7-10 compounds in each sample were of unknown identification



A cautionary tale: E-Cigarette and Vaping Lung Injury (EVALI)

- Peaked in 2019
- 68 confirmed deaths across 29 states and DC;
2,807 hospitalizations across 50 states and DC
- Largely unregulated products from illicit or
informal sources
- Unsafe byproducts and diluents
(Vitamin E Acetate was named as one cause)
- Labeling and recall issues in a number of states



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Delta-8 and
Delta-10
today....

???
tomorrow....



THC-V
THC-P
THC-O Acetate
Hexahydrocannabinol



Quantity of Legal Delta-9 THC in hemp products

- 0.3% Delta-9 THC in dry weight can result in a much higher proportion of THC in concentrated form. For example:



A collaboration between Urb Finest Flowers and Delta Extrax! Introducing Premium Delta 9 THC Gummies. These 6-gram gummies feature 10mg of hemp-derived Delta-9 THC. These gummies are a fully legal hemp product under the 2018 Hemp Farm Bill as they contain 0.1% delta-9-THC.

The screenshot shows the Rolling Stone website interface. At the top right is the 'Rolling Stone' logo. Below it is a navigation menu with links for Menu, Music, TV, Movies, Politics, Culture, Charts, Pro, and Newsletter. The article title is 'How One Weed Company Is Skirting Marijuana Rules to Sell THC Products in All 50 States' by Mary Jane Gibson, dated September 25, 2021. The article text begins with 'Marijuana is federally illegal. But what if you could get high off hemp?'. Below the text is a social media sharing bar with icons for Facebook, Twitter, Reddit, Email, and a plus sign. The main image shows a person's hands holding a small red packet of 'URB POLKAS' gummies and pouring yellow gummies into their palm. The person is wearing a blue shirt and has a tattoo on their arm.

LiftedMade's Urbrocks use compliant THC made from hemp.
Courtesy of Liftedmade

Policy approaches states have pursued

- Allow these products on both markets.
- Outlaw these products on both markets.
- Regulate these products within the context of the hemp regulatory framework.
- Outlaw these products in the hemp market but allow on the regulated cannabis/marijuana market.

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Policy approaches states have pursued

- Other considerations states have included in policy:
 - Serving size limits for Delta-9 (and other THC isomers) in manufactured hemp products
 - Regulatory authority for other cannabinoids produced by chemical synthesis from hemp
 - Regulatory authority for other cannabinoids produced by chemical synthesis from any source