



TODD ROKITA
ATTORNEY GENERAL

January 12, 2023

OFFICIAL OPINION 2023-1

Superintendent Doug Carter
Indiana State Police
100 N. Senate Ave., IGCN 340
Indianapolis, Indiana 46204

Chris Naylor, Executive Director
Indiana Prosecuting Attorneys Council
302 W. Washington Street, Rm. E-205
Indianapolis, Indiana 46204

RE: Tetrahydrocannabinol Variants and Other Designer Cannabinoid Products

Dear Superintendent Carter and Mr. Naylor:

You requested an opinion from the Office of the Indiana Attorney General (OAG) regarding whether tetrahydrocannabinol (THC) variants and other designer cannabinoid products are considered controlled substances as that term is defined in Ind. Code § 35-48-2-4(d)(31).

QUESTIONS

1. Can THC variants and other designer cannabinoids be prosecuted under Ind. Code § 35-48-2-4(d)(31) as a Schedule I controlled substance?
2. More specifically, do THC variants, including but not limited to delta-8 THC, delta-10 THC, THC-O, and THC-P as well as derivatives and isomers of these compounds, fall within the currently defined controlled substance "Tetrahydrocannabinols" as scheduled within Ind. Code § 35-48-2-4(d)(31)?

BRIEF ANSWER

Most THC variants and other designer cannabinoids fall under the statutory definition of a Schedule I controlled substance pursuant to Ind. Code § 35-48-2-4(d)(31). Delta-8 THC, delta-10 THC, and THCP are naturally found in the cannabis plant but are in small quantities and are commonly synthetically produced. This would classify them as synthetic derivatives, making

them Schedule I controlled substances pursuant to Ind. Code § 35-48-2-4(d)(31). Even in their natural forms, however, they would still be controlled substances, as Indiana law schedules the extracts of all cannabis species, making only limited exceptions for substances with concentrations below 0.3% delta-9 THC. THCO is not found naturally in the cannabis plant, so it is always a synthetic substance and therefore is unquestionably a Schedule I controlled substance under Ind. Code § 35-48-2-4(d)(31). The OAG cannot opine on the charging or prosecution of individual cases and defers to the prosecuting attorneys and law enforcement officers for those decisions. The OAG can say, however, that THC variants, including but not limited to delta-8 THC, delta-10 THC, THC-O, and THC-P as well as derivatives and isomers of these compounds, fall within the currently defined controlled substance “Tetrahydrocannabinols” as a Schedule I controlled substance within Ind. Code § 35-48-2-4(d)(31)

INTRODUCTION

Since the passage of the Agriculture Improvement Act (“AIA” or “2018 Farm Bill”) in 2018, there has been much confusion over the legality of certain isomers¹ of THC. There is little question that the 2018 Farm Bill removed *hemp* from the definition of *marijuana* and that hemp is no longer a controlled substance. What remains controversial, however, is what, if any, isomers of delta-9 THC deriving from the hemp plant are now legal and not a controlled substance as a result? Relatedly, does this affect only the federal interpretation or must states change the way they enforce their controlled substance statutes as well?

Cannabis sativa L. (“Cannabis Plant”)

What is the difference between hemp and marijuana?

Hemp and marijuana are essentially the same plant – they are from the same genus and species (*Cannabis sativa L.*) and often not visually distinguishable.² They both contain many cannabinoids – compounds that are found both naturally in the cannabis plant and synthetically made but that interact with the body to produce the euphoric “high” of marijuana; the most common and well-known cannabinoids are THC and cannabidiol (CBD).³

Generally, the distinction between hemp and marijuana is the concentration of delta-9 THC in the two plants. Hemp, by definition, must contain no more than 0.3% delta-9 THC by dry weight. Marijuana plants, on the other hand, contain anywhere from 5-30% THC.⁴ In other words, the high concentrations of delta-9 THC in marijuana can get you “high”, whereas the

¹ Isomers mean they have the same number of atoms, but the atoms are arranged or attached to each other differently.

² Matt Shipman, *Is hemp the same thing as marijuana?*, Feb. 15, 2019, <https://phys.org/news/2019-02-hemp-marijuana.html>; Rudy Sanchez, *Marijuana v. hemp: What’s the difference?*, Chicago Tribune, Aug. 15, 2019, <https://www.chicagotribune.com/marijuana/sns-tft-whats-the-difference-marijuana-hemp-20190815-nljrmxy7hvdedhca4vhwj4a3e-story.html>.

³ Shannon Smith, Note, *Hemp on the Horizon: The 2018 Farm Bill and The Future of CBD*, 98 N.C. L. Rev. Forum 35, 36 (2020); § 25:11 Regulatory challenge of new hemp products – Delta 8 THC and other cannabinoids, CANNABIS LAW DESKBOOK § 25:11 (2021-2022 ed.).

⁴ *Supra*, note 2.

concentrations are too low in hemp to be psychoactive.⁵ The cannabis plant is fast-growing, and hemp is typically grown outdoors to maximize its overall size as quickly as possible, which can be 3-7 feet in height.⁶

Whereas marijuana's use is limited to recreational and, in some states, medicinal purposes, hemp, or "industrial hemp," has many applications. Humans have used the strong fibers of the hemp plant in paper, textiles, and ropes, just to name a few functions, for hundreds (possibly thousands) of years.⁷ Hemp is also a source of biodiesel fuel, as well as animal feed and human protein.⁸ Importantly, hemp has a high-CBD concentration. Combined with its low-THC concentration, this makes hemp an attractive commodity to producers of homeopathic or naturopathic products and is part of a lucrative industry for CBD.⁹ Although little research exists yet to support the claims, anecdotally CBD is "widely acclaimed for use in addressing many aches, pains and mental disorders."¹⁰ The benefit of CBD is that, unlike THC, it is non-psychoactive. CBD, once a significantly restricted product, is now readily available in mainstream establishments such as grocery or retail stores and pharmacies, as well as boutique shops and online markets.¹¹

Cannabinoids and by-products

As previously noted, cannabinoids are chemical compounds found both in the cannabis plant and synthetically made. There are more than 100 naturally occurring cannabinoids in the cannabis plant, including THC and CBD.¹² Delta-9 is the most prevalent THC, but delta-8 THC and delta-10 THC are other isomers also found in *Cannabis sativa* L., albeit in trace concentrations.¹³ Delta-9 THC "is the psychopharmacologically active component of the cannabis plant." *Aycock v. State*, 246 S.E.2d 489, 491 (Ga. Ct. App. 1978). Delta-9 THC is the most common isomer, and the cannabis plant contains less than 10% of the delta-8 THC isomer. *Id.* THC, the psychoactive cannabinoid, is the most prevalent cannabinoid in *Cannabis sativa* L. and CBD, which is not known to be psychoactive, is the second.¹⁴ THC binds to the brain's cannabinoid receptors, which creates the familiar "high" marijuana is known for.¹⁵ Delta-8 and delta-10 THCs both produce a similar high to delta-9 THC, but it is reportedly milder than that of delta-9 THC.¹⁶ THC-P is a newer cannabinoid, discovered in 2019 by Italian researchers.¹⁷

⁵ Keenan Osborne, Note, *Growing Industry: The 2018 Farm Bill and Delta-8 THC Legalization*, 22 Wake Forest J. Bus. & Intell. Prop. L. 428, 430, 432 (Spring 2022); Smith, *supra*, note 3 at 37; Sanchez, *supra*, note 2.

⁶ Osborne, *supra*, note 5 at 430; Sanchez, *supra*, note 2.

⁷ Sanchez, *supra*, note 2.

⁸ *Id.*

⁹ Shipman, *supra*, note 2; Smith, *supra*, note 3 at 37-38.

¹⁰ *Supra*, note 2; *see also* Smith, *supra*, note 3 at 37-38.

¹¹ Smith, *supra*, note 3 at 37-38.

¹² CANNABIS LAW DESKBOOK, *supra*, note 3.

¹³ Osborne, *supra*, note 5 at 432.

¹⁴ Osborne, *supra*, note 5 at 431.

¹⁵ *Id.*

¹⁶ *Id.* at 432.

¹⁷ Citti et al., *A novel phytocannabinoid isolated from Cannabis sativa L. with an in vivo cannabimimetic activity higher than Δ⁹-tetrahydrocannabinol: Δ⁹-Tetrahydrocannabiphorol*, Nature, Dec. 30, 2019, 9:20335 (2019); <https://www.nature.com/articles/s41598-019-56785-1>.

Synthetic cannabinoids

THC can be chemically extracted from the cannabis plant, or it can be completely chemically manufactured in a laboratory. *Aycock*, 246 S.E.2d at 491. Synthetic cannabinoids are not naturally produced by the human body or by the cannabis plant, but instead are created artificially (usually in a laboratory). They mimic THC and produce similar effects in humans as naturally-produced cannabinoids because they bind to the same receptors in the brain.¹⁸ They fully saturate the brain’s cannabinoid receptors, making them anywhere from 100 to 800 times more powerful than the THC found naturally in the cannabis plant, which can lead to overdoses as well as other side effects.¹⁹

There are hundreds of synthetic cannabinoids on the market.²⁰ They are sprayed onto shredded plant material and smoked, mixed into a liquid or oil for vaping in e-cigarettes, or consumed by adding to tea or food.²¹ Although the health risks are relatively unknown, and they are much more potent than naturally-occurring THC, synthetic cannabinoids are popular because consumers believe they are both legal and safe.²² However, there is a wide range of variation among synthetic cannabinoids, and they are very different chemicals from that of naturally-occurring THC.²³

Federal and State regulation

Synthetic drugs and controlled substances – Controlled Substance Act

The Controlled Substance Act (CSA), enacted in 1970, defines a “controlled substance” and establishes a uniform system of regulation for psychotropic and narcotic drugs.²⁴ The CSA specifically lists, or “schedules,” chemicals and prohibits their use, possession, manufacturing, distribution, and sale.²⁵ There are five schedules of controlled substances, and Schedule I substances “have no currently accepted medical use in the United States, a lack of accepted safety for use under medical supervision, and a high potential for abuse.”²⁶ Marijuana²⁷ (7360) and Tetrahydrocannabinols (7370) are Schedule I controlled substances.²⁸ A significant weakness in the CSA is that although it is straightforward with listing individual substances by chemical name, such specificity also allows for chemists, manufacturers, and others to find loopholes by simply

¹⁸ Osborne, *supra*, note 5 at 431-32.

¹⁹ Katherine Brisson, Note, *Ending the Creation of “Legal” Synthetic Drugs: A Critique of the Controlled Substance Analogue Act and Proposed Solutions*, 70 Syracuse L. Rev. 1205, 1213 (2020); see also <https://www.cdc.gov/nceh/hsb/chemicals/sc/About.html> (last accessed July 6, 2022) (hereinafter “CDC page”).

²⁰ CDC page, *supra*, note 19.

²¹ *Supra*, note 19.

²² CDC page, *supra*, note 19.

²³ *Supra*, note 19.

²⁴ Brisson, *supra*, note 19 at 1214-15.

²⁵ *Id.*; see also 21 USC § 801 et seq.

²⁶ Controlled Substance Schedules, <https://www.deadiversion.usdoj.gov/schedules/>.

²⁷ The term is spelled as *marihuana* in many of the relevant federal regulations, but this Opinion will apply the more commonly-known and used spelling throughout the document.

²⁸ Dept. of Justice, *Controlled Substances List*, Aug. 2, 2022; https://www.deadiversion.usdoj.gov/schedules/orangebook/c_cs_alpha.pdf (last accessed Aug. 5, 2022); see also § 30:1. FDA and cannabis products, 3 FOOD AND DRUG ADMIN. § 30:1 (2022).

altering the chemical structure of a controlled substance ever-so-slightly.²⁹ This minor alteration gives them the ability to synthesize and manufacture a new drug with the same pharmacological properties (and effects) as the targeted control substance, but is not on the scheduled list.³⁰

In response to the manipulation of the CSA and the emergence of “designer drugs” on the market, in 1986 Congress passed the Controlled Substance Analogue Enforcement Act (CSAEA).³¹ With the aim of preventing the development of “legal” analogues, the CSAEA provides that “[a] controlled substance analogue shall, to the extent intended for human consumption, be treated, for the purposes of any Federal law as a controlled substance in schedule I.”³² A *controlled substance analogue* is defined in relevant part as “... a substance the chemical structure of which is substantially similar to the chemical structure of a controlled substance in schedule I or II...”³³ Unlike the CSA, the CSAEA does not list individual substances but instead creates a framework to determine if a new substance is a controlled substance analogue.³⁴

A 2020 resource guide from the Drug Enforcement Agency (DEA) further explained that “[s]ynthetic cannabinoids are not organic, but are chemical compounds created in a laboratory.”³⁵ The DEA has indicated it will treat delta-8 THC derived from chemical conversion or other synthetic methods as illegal,³⁶ and the current federal Controlled Substances List names *Delta-8 THC* under Tetrahydrocannabinols (7370), which is a Schedule I controlled substance.³⁷ It does not specify that the delta-8 THC must be of synthetic origin, so presumably the DEA also considers delta-8 THC in all forms to be a Schedule I controlled substance.

Agriculture Improvement Act (AIA), or 2018 “Farm Bill”

In 2018, President Trump signed into law the Agriculture Improvement Act (AIA), commonly referred to as the 2018 Farm Bill. The relevant provisions for this Opinion are those that amended the definition of marijuana, legalized hemp, and provided a regulatory framework for its commercial production.³⁸ It also added hemp to the list of crops covered under the Agricultural Marketing Act of 1946, which shifted regulatory authority for hemp from the DEA to the United States Department of Agriculture (USDA).³⁹ However, edible and ingestible forms of hemp fall under the jurisdiction of the U.S. Food and Drug Administration (FDA).⁴⁰

The AIA limits the definition of marijuana to only include cannabis or cannabis-derived material that contains more than 0.3% delta-9THC on a dry weight basis. In other words, if a

²⁹ Brisson, *supra*, note 19 at 1215.

³⁰ *Id.*

³¹ *Id.* at 1217.

³² *Id.*

³³ 21 USC § 802(32)(A)(i).

³⁴ Brisson, *supra*, note 19 at 1218.

³⁵ https://www.dea.gov/sites/default/files/2020-04/Drugs%20of%20Abuse%202020-Web%20Version-508%20compliant-4-24-20_0.pdf (last accessed July 27, 2022)

³⁶ Osborne, *supra*, note 5 at 441-42.

³⁷ Dept. of Justice, *Controlled Substances List*, *supra*, note 28.

³⁸ Smith, *supra*, note 3 at 35.

³⁹ *Id.* at 44.

⁴⁰ FDA and cannabis products, *supra*, note 28.

naturally-occurring cannabinoid of the *Cannabis sativa L.* plant contains greater than 0.3% of delta-9THC on a dry weight basis, it remains a schedule I controlled substance.⁴¹ Furthermore, it adds a definition of *hemp* and clarifies that the term *marijuana* (or “marihuana” as it is referred to in the Federal Regulations) does not include hemp. The definition of *marijuana* continues to state that “all parts of the plant *Cannabis sativa L.*,” and “every compound, manufacture, salt, derivative, mixture, or preparation of such plant,” are schedule I controlled substances unless they meet the definition of *hemp* (by falling below the 0.3% delta-9 THC limit on a dry weight basis) or are from exempt parts of the plant (such as mature stalks or non-germinating seeds).⁴² Consequently, any cannabis derivative, extract, or product that exceeds the 0.3% delta-9 THC limit is a schedule I controlled substance, *even if* the plant from which it was derived contained 0.3% or less delta-9 THC on a dry weight basis.⁴³

To meet the AIA’s definition of *hemp*, and thus qualify for the exception in the definition of *marijuana*, a cannabis-derived product must contain 0.3% or less delta-9 THC on a dry weight basis, and “[i]t is not enough that a product is labeled or advertised as ‘hemp’.”⁴⁴ Cannabis-derived products exceeding 0.3% delta-9 THC do not meet the statutory definition of *hemp* and are schedule I controlled substances, regardless of claims made on the labeling or in the advertising of the products.⁴⁵ The DEA also clarifies that the AIA does not impact the control status of synthetically derived cannabinoids for marijuana because the statutory definition of *hemp* applies only to naturally produced cannabinoids and **all synthetically derived THC’s remain schedule I controlled substances.**⁴⁶

Regulation of sales of Delta-8 THC

Delta-8 THC is the fastest-growing product in the hemp industry right now, and many states are struggling with how to regulate its sales.⁴⁷ Even states that do not permit recreational or medical use have seen an increased presence of the substance.⁴⁸ One reason is because of its questionable legal status, as it is derived from the hemp plant, but it must be chemically extracted and further synthesized to be made in sufficient quantities to be sold commercially. Additionally, the lack of federal regulation on the substance has led to “limited availability” of high-purity delta-8, or delta-8 without by-products or other forms of THC in it, due to unregulated or uncontrolled steps during the manufacturing and synthesizing processes.⁴⁹

Delta-8 THC is derived from the hemp plant, so the AIA’s new definition of *hemp* and redefining of *marijuana* has created a legally “gray area” and generated a considerable amount of debate about its legal status as well as that of other variants derived from the hemp variation of the

⁴¹ Drug Enforcement Agency, Implementation of the Agriculture Improvement Act of 2018, 85 Fed. Reg. 51,639, 51,641 (Aug. 21, 2020) (hereinafter DEA Rule).

⁴² *Id.*

⁴³ *Id.*

⁴⁴ *Id.*

⁴⁵ *Id.*

⁴⁶ *Id.*; see also Osborne, *supra*, note 5 at 445.

⁴⁷ Britt E. Erickson, *Delta-8-THC craze concerns chemists*, Chemical & Engineering News; ISSN 0009-2347, Aug. 30, 2021. <https://cen.acs.org/biological-chemistry/natural-products/Delta-8-THC-craze-concerns/99/i31>

⁴⁸ Osborne, *supra*, note 5 at 429.

⁴⁹ *Supra*, note 47.

Cannabis sativa L. plant. This is especially true of those variants like delta-8 THC that often require a chemical intervention or process to create commercially viable quantities. Hemp’s definition includes “all derivatives, extracts, cannabinoids, isomers, acids, salts and salts of isomers.” Therefore, “[b]ecause delta-8 THC is both an isomer of CBD and a derivative of CBD when obtained from the cyclization reaction, it may be considered to fall under this definition.”⁵⁰

Some sides argue that the AIA legalized every THC except delta-9 THC, since that was the only one mentioned in the Act, while others will argue that “violates the spirit of the law.”⁵¹ The DEA’s Interim Final Rule, discussed *supra*, while providing some guidance, is also still vague by failing to provide a concrete definition of “synthetically derived.”⁵² Does a product have to be completely chemically manufactured, or even if it has some natural basis or component, does the fact that it had any chemical process or alteration make it a “synthetic product”? Does the process of extracting delta-8 THC from CBD and further synthesizing it meet the definition of “synthetically derived”? The same cyclization reaction that one could argue makes it fall under the definition of *hemp* could also be used to argue that it is a synthetic drug and therefore a controlled substance.⁵³ Until clear guidance is issued by the DEA, the debate will continue.

Arguments for the legality of THC variants

As mentioned, there are arguments both for and against the legality of delta-8 THC and other THC variants under the AIA. The most compelling reason arguing in favor of their legality is, as mentioned above, hemp is legal under the AIA so its variants are as well. The federal government has not clearly defined “synthetic derivative,” but we know that the definition of hemp includes derivatives, cannabinoids, isomers, and such. A recent case agreed with this assertion that the AIA “legalized delta-8 THC and, by extension, its products incorporating the compound.” *AK Futures LLC v. Boyd Street Distro, LLC*, 35 F.4th 682 (2022). The court found that the AIA definition of hemp expressly applies to “all” products sourced from the hemp cannabis plant, including isomers and other “downstream products,” so long as they do not cross the 0.3 percent delta-9 THC threshold. *Id.* The court emphasizes that the only “statutory metric” for distinguishing marijuana (controlled) from hemp (legal/uncontrolled) is the *delta-9* THC concentration level. *Id.*

Arguments against the legality of THC variants

Although an argument can be made that the AIA leaves some room for interpretation about the legality of delta-8 and other THC variants, there seems to be more support for the notion that the AIA did not make them legal simply because it removed hemp from the definition of *marijuana* and categorized it as a non-controlled substance if its delta-9 THC concentration does not cross the 0.3% threshold. The AIA legalizes any *hemp-derived* cannabinoid derived, “if and only if that hemp is produced in a manner consistent with the Farm Bill, associated federal regulations, associate[d] state regulations, and by a licensed grower.”⁵⁴ CBD derived from hemp is now legal,

⁵⁰ Michael Tagen and Linda E. Klumpers, *Review of delta-8-tetrahydrocannabinol (Δ 8-THC): Comparative pharmacology with Δ 9-THC*, Br J Pharmacol. 2022;1–19.

⁵¹ CANNABIS LAW DESKBOOK, *supra*, note 3.

⁵² *Id.*

⁵³ *Supra*, note 50.

⁵⁴ Smith, *supra*, note 3 at 47.

while CBD derived from plants containing greater than 0.3% delta-9 THC (i.e., marijuana plants) continues to be a Schedule I controlled substance.⁵⁵

Others argue that the DEA’s Interim Final Rule *did* categorize delta-8 THC as a controlled synthetic substance but has simply not enforced it under the CSA.⁵⁶ Additionally, many chemists – presumably experts in the field – also believe delta-8 THC is a synthetic cannabinoid that is not legal and has a multitude of safety concerns.⁵⁷ Without better regulation, consumers will continue to have a false sense of security that delta-8 THC (and other synthetic cannabinoids) are both safe and legal.⁵⁸ “[W]e need to get the truth out to the public” that it is a synthetic compound made from an ingredient extracted from hemp...“Like making meth from cold medicine, just because the starting materials are legal does not make the resulting product legal (or safe).”⁵⁹

ANALYSIS

Relevant Statutes

Federal Law - Agriculture Improvement Act (AIA)

7 U.S.C. § 1639o reads in relevant part:

- (1) The term “**hemp**” means the plant *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 tetrahydrocannabinol concentration of not more than 0.3 percent on a dry weight basis.

7 U.S.C. § 1639p(a)(3) reads in relevant part:

- (A) Nothing in this subsection preempts or limits any law of a State or Indian tribe that –
 - (i) regulates the production of hemp; and
 - (ii) is more stringent than this subchapter.

7 U.S.C. § 1639p(f) reads in relevant part:

Nothing in this section prohibits the production of hemp in a State or the territory of an Indian tribe –

- (1) for which a State or Tribal plan is not approved under this section, if the production of hemp is in accordance with section 1639q of this title or other Federal laws (including regulations); and

⁵⁵ *Id.*

⁵⁶ Osborne, *supra*, note 5 at 429, 446.

⁵⁷ *Supra*, note 47.

⁵⁸ *Id.*

⁵⁹ *Id.*

- (2) if the production of hemp is not otherwise prohibited by the State or Indian tribe.

Indiana Law

Ind. Code § 15-15-13-6 reads in relevant part:

“hemp” means the plant *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...with a delta-9 THC concentration of not more than three-tenths of one percent (0.3%) on a dry weight basis, for any part of the *Cannabis sativa* L. plant.

Ind. Code § 15-15-13-6.5 reads in relevant part:

“hemp product” means a product derived from, or made by, processing hemp plants or plant parts including derivatives, extracts, cannabinoids, isomers, acids, salts, and salts of isomers. However, the term does not include...products that contain a total delta-9 THC concentration of more than three-tenths of one percent (0.3%) by weight.

Ind. Code § 35-48-1-9 reads in relevant part:

“Controlled substance” means a drug, substance, or immediate precursor in schedule I...[t]he term does not include low THC hemp extract.

Ind. Code § 35-48-1-17.5 reads in relevant part:

- (a) **“Low THC hemp extract”** means a substance or compound that:
 - (1) is derived from or contains any part of the plant *Cannabis sativa* L. that meets the definition of hemp under IC 15-15-13-6;
 - (2) contains not more than three-tenths percent (0.3%) total delta-9-tetrahydrocannabinol (THC), including precursors, by weight; and
 - (3) contains no other controlled substances.
- (b) The term does not include...hemp.

Ind. Code § 35-48-2-4 reads in relevant part:

- (a) The controlled substances listed in this section are included in **schedule I**. [...]
- (d) Hallucinogenic substances. Unless specifically excepted or unless listed in another schedule, any material, compound, mixture, or preparation which contains any quantity of the following [...] their salts, isomers, and salts of isomers [...]
 - (31) Tetrahydrocannabinols (7370), including synthetic equivalents of the substances contained in the plant, or in the resinous extractives of

Cannabis, sp. and synthetic substances, derivatives, and their isomers with similar chemical structure and pharmacological activity [...]

Delta-9 THC compared to Delta-8 THC and other variants

There are few differences between delta-8 THC and delta-9 THC, but the most distinguishing factors are their respective chemical structures and the effect they have on humans. Molecularly, the only difference between the two is the location of a double carbon bond.⁶⁰ Delta-8 THC is a double-bond isomer of delta-9 THC.⁶¹ Unlike delta-9 THC, which is found in relatively large quantities in the cannabis plant, delta-8 THC is found in scant amounts.⁶² Delta-8 is known to be highly psychoactive in humans, but anecdotally described as providing similar effects to delta-9 THC albeit milder and with fewer side effects.⁶³

Delta-9 THC, as noted *supra*, is regulated federally and in many states (including Indiana). It is a well-known substance derived from the *Cannabis sativa* L. plant, and scientists have known since the 1960s it is the compound “almost entirely responsible for the intoxicating properties of cannabis.”⁶⁴ It occurs naturally in large quantities, whereas the natural concentration of delta-8 THC in cannabis plants and cannabis-derived products is too low to be extracted from the plant outright.⁶⁵

Because delta-8 THC’s natural concentrations are so low, it is mostly made in a laboratory to yield enough for a commercial product. “Simple chemistry” can convert CBD to delta-8 THC, or chemicals themselves can be converted to create delta-8 THC.⁶⁶ Since delta-8 THC is not a regulated product unlike its sister delta-9 THC, the chemical conversion process lacks oversight by any regulatory body. The synthetic conversion can create potentially harmful byproducts or contaminants in the products due to the chemicals used during the process, and some manufacturers could use harmful household chemicals as part of the process.⁶⁷ Not only can there be chemical contaminants, but there may be other cannabinoids, including delta-9 THC, in the product as well; in other words, the consumer may not be getting a “pure” delta-8 THC product even though it is labeled as such.⁶⁸ Some of these byproducts are not naturally found in the cannabis plant, and the health effects of them are unknown.⁶⁹

Are Delta-8 THC and other THC variants controlled substances under Indiana law?

Delta-8 THC meets the statutory definition of a controlled substance under Indiana law, namely Ind. Code § 35-48-2-4(d)(31). Likewise, synthetic equivalents of THCs are Schedule I controlled substances pursuant to Ind. Code § 35-48-2-4(d)(31). Although delta-8 THC is

⁶⁰ *Supra*, note 47; CANNABIS LAW DESKBOOK, *supra*, note 3.

⁶¹ *Supra*, note 50.

⁶² CANNABIS LAW DESKBOOK, *supra*, note 3.

⁶³ *Id.*

⁶⁴ *Supra*, note 50.

⁶⁵ *Id.*; Osborne, *supra*, note 5 at 433.

⁶⁶ *Supra*, notes 47 and 50; Osborne, *supra*, note 5 at 453; CANNABIS LAW DESKBOOK, *supra*, note 3.

⁶⁷ <https://www.fda.gov/consumers/consumer-updates/5-things-know-about-delta-8-tetrahydrocannabinol-delta-8-thc>

⁶⁸ *Supra*, note 47.

⁶⁹ *Id.*

naturally occurring in *Cannabis sativa* L., it is present in such miniscule quantities that it is not commercially viable unless it is chemically processed or manufactured. Even as a natural extraction of the cannabis plant, delta-8 THC would still be classified as a controlled substance under the statute. Moreover, in its plain language, the AIA does not preempt state law in the regulation of delta-8 THC or other variants. Therefore, if a state law is more stringent and further regulates or prohibits hemp/marijuana, it is acceptable within state borders.⁷⁰ Consequently, Indiana can interpret its laws to prohibit delta-8 THC and not be inconsistent or in conflict with the AIA or its own statutes.

Delta-8 THC is a Schedule I controlled substance in Indiana

Delta-8 THC – synthetic equivalents, substances, derivatives, and their isomers

As mentioned throughout this Opinion, delta-9 THC is prevalent in cannabis plants, whereas delta-8 THC is not; generally, cannabis plants only contain 0.1% delta-8 THC at most.⁷¹ To put this in perspective, an “all-natural” delta-8 THC product with no synthetic delta-8 THC addition would have to come from a cannabis plant with a concentration of 15-20% delta-8 THC.⁷² At most, there have been reports of cannabis plants containing 1% delta-8 THC concentrations, but they are rare.⁷³ In other words, delta-8 THC, at least for the near future will always have a synthetic component to it. It is clear from the plant biology that delta-8 THC products are by default mostly synthetic even if they have some natural component to them, and some delta-8 THC products are completely synthetic.

“Synthetic equivalents” of THC’s are Schedule I controlled substances in Indiana. Ind. Code § 35-48-2-4(d)(31):

Tetrahydrocannabinols (7370), *including synthetic equivalents* of the substances contained in the plant, or in the resinous extractives of *Cannabis*, sp. *and synthetic substances, derivatives, and their isomers* with similar chemical structure and pharmacological activity [...] (emphasis added)

Indiana law does make exceptions for hemp and hemp products, as well as low THC hemp extracts, but delta-8 THC does not appear to fall into any of these named exceptions, either.⁷⁴ First, and most importantly, Ind. Code § 35-48-2-4(d)(31) applies to all cannabis plants – “substances contained in the plant, or in the resinous extractives of *Cannabis*, sp.”; it does not distinguish between THC compounds from a hemp plant or a marijuana plant. Additionally, these exceptions mention delta-9 THC as the THC isomer that the state will base its exception upon. While one could argue that because other isomers are not mentioned, this would mean only delta-9 THC is regulated and therefore all other hemp-derived THC variants are legal. However, this argument

⁷⁰ Interstate commerce is a separate topic and is beyond the scope of this Opinion, so it will not be addressed here.

⁷¹ *Supra*, note 47.

⁷² *Id.*

⁷³ *Id.*

⁷⁴ See Ind. Code § 15-15-13-6 (“hemp” defined); Ind. Code § 15-15-13-6.5 (“hemp product” defined); Ind. Code § 35-48-1-17.5 (low THC hemp extract” defined). Text of the definitions available *supra*. Indiana’s definition of “hemp” is substantially similar to that of the AIA.

falls flat upon a fair and logical reading of Ind. Code § 35-48-2-4(d)(31), which clearly includes derivatives and isomers “with similar chemical structure and pharmacological activity” of all cannabis plant species.

Even if it was not largely synthetic, however, delta-8 THC still falls into the definition of a Schedule I controlled substance because it is an extract of the cannabis plant species, and Ind. Code § 35-48-2-4(d)(31) makes no distinction between the types of plants except by delta-9 THC concentration. Therefore, under Indiana law, delta-8 THC is a Schedule I controlled substance regardless of whether it is synthetic or a natural product.

Other THC variants and designer cannabinoid products

Because of its largely synthetic nature, delta-8 THC substances would meet the statutory definition of a Schedule I controlled substance pursuant to Ind. Code § 35-48-2-4(d)(31) as a synthetic equivalent of a THC (7370). However, there are other variants to discuss. Delta-10 THC is also present in cannabis and like delta-8 THC, produces a similar but milder high than delta-9 THC.⁷⁵ Delta-10 THC and other variants would follow the same analysis as delta-8 THC. They must meet the same thresholds – if the variant compounds require a chemical process beyond the normal natural plant extraction, they are synthetic drugs and controlled substances. If they were extracted from the cannabis plant and the product does not otherwise have any chemical manipulation or substances that mimic THC, then it would not be a synthetic drug; however, it is still a controlled substance as it is still an extract of the cannabis plant and does not fall under the definition of “low THC hemp extract.”

Like delta-8 THC and delta-10 THC, THCP is naturally found in *Cannabis sativa* L., but in trace amounts, with more than 30-times the potency of delta-9 THC.⁷⁶ Like its sister isomers delta-8 THC and delta-10 THC, because of its small quantities naturally present in the cannabis plant, most THCP products on the shelf are synthetic products since commercial production would not otherwise be possible.⁷⁷ Therefore, it follows the same analysis as delta-8 THC and delta-10 THC.

THC-O is a synthetic substance that is not found naturally in *Cannabis sativa* L., and there have been no human studies on its effects.⁷⁸ THC-O is the acetate ester of THC and is found in gummies and vape products.⁷⁹ Its purely synthetic nature means it is unquestionably a Schedule I controlled substance in the state of Indiana.

The AIA leaves the regulation of THC to the individual states

The argument weighs heavily in favor of delta-8 THC, other THC variants, and designer cannabinoids as Schedule I controlled substances pursuant to Ind. Code § 35-48-2-4(d)(31).

⁷⁵ Osborne, *supra*, note 5 at 432.

⁷⁶ *Supra*, note 17.

⁷⁷ <https://secretnaturecbd.com/blogs/cbd/cbd-delta-8-vs-thco-thcp-hhc-delta-10-ultimate-cannabinoid-showdown> (last accessed July 25, 2022)

⁷⁸ *Supra*, note 47.

⁷⁹ *Id.*

Regardless of how delta-8 THC and other variants are classified elsewhere, Indiana has classified extracts, derivatives, and isomers “with similar chemical structure and pharmacological activity,” including synthetic derivative, of all cannabis plant species as Schedule I controlled substances. The AIA expressly leaves this regulation to the states and does not preempt a state’s ability to classify it as a controlled substance within the state:

- (A) Nothing in this subsection preempts or limits any law of a State or Indian tribe that –
- (i) regulates the production of *hemp*; and
 - (ii) is more stringent than this subchapter.

(emphasis supplied)

7 U.S.C. § 1639p(a)(3)

The AIA did not limit or prohibit the states from regulating hemp-derived products when it removed *hemp* from the definition of *marijuana* and independently defined *hemp*. Moreover, the plain language of the statute and the legislative history indicate a clear intent to declassify hemp so it could be used for agricultural purposes, not “as a backdoor way to legalize THC.”⁸⁰ Importantly, this declassification did not mean the federal government no longer regulates hemp cultivation – the AIA authorizes states to implement their own hemp regulatory programs, but a hemp license issued by the state or USDA is required to operate legally.⁸¹ The AIA notes that hemp under the bill must be “produced in a manner consistent with the Farm Bill, associated federal regulations, *associate[d] state regulations*, and by a licensed grower.” (emphasis supplied)⁸² As evident from the statutory language, the AIA itself contemplates states further regulating hemp and its byproducts. Moreover, the DEA’s Interim Final Rule (IFR) makes clear that it does not apply to synthetic THC’s and notes that all synthetically derived cannabinoids remain Schedule I controlled substances.⁸³ The IFR also clarifies that regardless of plant, if it exceeds 0.3% delta-9 THC concentration by dry weight, it is a controlled substance, even if it is technically a “hemp plant,” because it no longer meets the federal statutory definition of *hemp*.⁸⁴ Thus, hemp is not a free-for-all at the federal level, either, and the AIA has left states with the ability to further regulate the crop.

Summary

Delta-8 THC meets the statutory definition of a controlled substance under Ind. Code § 35-48-2-4(d)(31), both in its natural and synthetic forms. Synthetic equivalents of THC’s are Schedule I controlled substances pursuant to Ind. Code § 35-48-2-4(d)(31). The AIA does not preempt state law in the regulation of hemp. Therefore, if a state law is more stringent and further regulates or prohibits hemp/marijuana, that is permissible under federal law without conflicting with the AIA.

⁸⁰ Alex Malyshev & Sarah Ganley, *Controlling Cannabis and the Classification of Delta-8 THC*, REUTERS (Sept. 22, 2021), <https://www.reuters.com/legal/litigation/controlling-cannabis-classification-delta-8-thc-2021-09-22/>; see also Congressional Research Service, *The 2018 Farm Bill (P.L. 115-334): Summary and Side-by-Side Comparison*, Feb. 22, 2019, for a summary of the bill and background history.

⁸¹ Smith, *supra*, note 3 at 47-48.

⁸² *Id.*

⁸³ *Supra*, note 41.

⁸⁴ *Id.*

CONCLUSION

Delta-8 THC and other THC variants, as well as designer cannabinoids are Schedule I controlled substances pursuant to Ind. Code § 35-48-2-4(d)(31). Delta-8 THC, delta-10 THC, and THCP are naturally found in the cannabis plant but in trace amounts, and most of the products on the market are at least partially – if not fully – synthetically derived. Ind. Code § 35-48-2-4(d)(31) not only declares synthetic derivatives of all cannabis species as Schedule I controlled substances, but also the extracts, isomers, and any other derivatives. There are very limited exceptions for substances with concentrations below 0.3% delta-9 THC, but none of these apply to the compounds discussed in this Opinion. THCO is not found naturally in the cannabis plant, so it is always a synthetic substance and therefore is unquestionably a Schedule I controlled substance under Ind. Code § 35-48-2-4(d)(31). The AIA does not preempt state law in the regulation of hemp, so Indiana can classify these THC variants as Schedule I controlled substances without conflicting with federal law. The OAG cannot opine on the charging or prosecution of individual cases and defers to the prosecuting attorneys and law enforcement officers for those decisions.

Sincerely,

A handwritten signature in black ink, appearing to read "Todd Rokita". The signature is fluid and cursive, with a large initial "T" and "R".

Todd Rokita
Attorney General of Indiana

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