

# MARIJUANA: A PRIMER FOR INDUSTRY

## Introduction

On November 6, Michigan voters approved the most lenient law legalizing recreational marijuana in the United States, and made the Wolverine State the first in the Midwest to legalize the drug. Michiganders overwhelmingly approved ballot proposal or Initiative No. 1, titled the Michigan Regulation and Taxation of Marihuana<sup>1</sup> Act. Michigan legalized medical marijuana in 2008.

The new law allows people 21 and older to carry 2.5 ounces in public, and to have up to 10 ounces at home. In addition, Michiganders- again 21 or older- can have up to 12 plants at home, as long as they are not grown in a location visible from outside. Smoking marijuana in public and driving under the influence of the drug is illegal.

The law is expected to take effect by the middle of December 2018. But Michiganders cannot legally buy or sell marijuana for recreational use until the state Department of Licensing and Regulatory Affairs (LARA) develops regulations for creating and distributing licenses. The statute gives LARA one year to complete this process. If after one year, LARA has not issued licenses, municipalities can take over the process. In the interim, medical marijuana dispensaries will continue to operate but a drug buyer must have a medical marijuana card.

This situation will likely cause much confusion and misinformation about the rights of individuals to carry or use recreational marijuana. Moreover, cannabis- including both medical and recreational marijuana- is considered a Schedule 1 Drug, and as such is still illegal under federal law. The Department of Justice, however, has not been enforcing the ban in states that have legalized the drug.

## Health Effects

So if Michigan and other states in the union have legalized recreational marijuana and the feds aren't enforcing their ban, it must not be harmful- right? WRONG!! The following are some of the health effects of marijuana.

- driving-related performance compromised in 18 to 24 year-olds following typical dose of inhaled cannabis (100 mg- a typical joint is 300-500 mg of dried cannabis), even five hours after use.<sup>2</sup>
- 1 in 10 marijuana users become addicted to the substance.<sup>3</sup>
- the brain is directly affected, specifically parts for memory, learning, attention, decision making, coordination, emotions, and reaction time.<sup>4</sup>
- developmental problems in infants whose mothers used marijuana while pregnant.<sup>5</sup>
- disorientation, unpleasant thoughts or feelings of anxiety and paranoia with frequent (daily or near daily) use or use in high doses.<sup>6</sup>

- temporary psychosis (not knowing what is real, hallucinations and paranoia) and long-lasting mental disorders.<sup>7</sup>
- food and drink infused with marijuana create greater risk of poisoning due to effects not being evident for 0.5-2 hours after ingestion and other variables, e.g., alcohol, empty stomach, etc.
- cannabis withdrawal symptoms include irritability, sleep difficulties, dysphoria (i.e., profound unease or dissatisfaction), cravings, and anxiety.<sup>8</sup>
- causes psychosis, especially if regular use of high-potency cannabis and synthetic cannabinoids.<sup>9,10</sup>
- increases neural noise in humans at doses roughly equivalent to half or a single joint.<sup>11</sup>
- acute psychotic reactions lasting a few hours but occasionally one week.<sup>12</sup>

The higher the THC content, the stronger the effects on the brain. In fact, THC, the potency of which has escalated dramatically in marijuana due to commercialization, shows signs of being actively toxic to the nervous system. The concentration of THC in traditional marijuana and resin in the 1960s was approximately 1 to 3 percent. Experimentation to produce more potent varieties of plants took place in the 1980s. During the early 2000s the potency of marijuana in England and Holland, as measured by the proportion of THC, had risen to 16 to 20 percent. In recent years extremely potent edibles and cannabis extractions, e.g., shatter, have THC concentrations up to 80 percent. The result?

Most everything we thought we knew about marijuana's risks needs to be re-assessed under contemporary conditions, and most every danger, as we progressively uncover them, turns out to be heightened.<sup>13</sup>

Researchers still do not yet know the full extent of the consequences when the body and brain (especially the developing brain) are exposed to high concentrations of THC or how recent increases in marijuana potency affect the risk of addiction.

What about Cannabidiol or CBD, the other primary cannabis ingredient, which is showing up in a variety of products from lotions to dog treats? Less psychoactive than THC, CBD seems to have a variety of potentially therapeutic effects, including anti-seizure, antioxidant, neuroprotective, anti-inflammatory, analgesic, anti-tumor, anti-psychotic, and anti-anxiety properties. CBD inhibits enzymes that destroy cannabinoids, the chemicals found in cannabis and that are also produced by the human body in the endocannabinoid system, which was first discovered in the 1990s.

Nevertheless, CBD is still a federally illegal Schedule 1 Drug. Some contend that CBD derived from imported hemp is completely legal. The Brookings Institute, however, contends that "this creative interpretation of the law runs afoul of reality."<sup>14</sup> Hemp and marijuana are the same species of plant, *Cannabis sativa*, although different varieties. Marijuana was created through selective propagation of indian hemp in order to increase its THC content. Indian or industrial hemp, which is used extensively for textiles, paper,

cosmetics, and other products, has only trace amounts of THC- generally less than 1%. However, some CBD products have been found to contain higher concentrations of THC.<sup>15</sup> Also CBD concentrations of three quarters of CBD products available online were found to be inaccurate since no standardized processing procedures exist.<sup>16</sup> It should be emphasized that CBD can be extracted either from hemp or marijuana, despite the fact that hemp typically contains a higher concentration.

### Michigan Law

Importantly the new Michigan law legalizing recreational marijuana addresses use of marijuana in businesses. Section 4.3 of the act states:

This act does not require an employer to permit or accommodate conduct otherwise allowed by this act in any workplace or on the employer's property. This act does not prohibit an employer from disciplining an employee for violation of a workplace drug policy or for working while under the influence of marihuana. This act does not prevent an employer from refusing to hire, discharging, disciplining, or otherwise taking an adverse employment action against a person with respect to hire, tenure, terms, conditions, or privileges of employment because of that person's violation of a workplace drug policy or because that person was working while under the influence of marihuana.

Business can also benefit from the new Michigan marijuana law, specifically, Section 4.1(a),

This act does not authorize operating, navigating, or being in physical control of any motor vehicle . . . while under the influence of marihuana,

and, Section 4.1(g),

This act does not authorize consuming marihuana while operating, navigating, or being in physical control of any motor vehicle . . . or smoking marihuana within the passenger area of a vehicle upon a public way.

But note the negative language of these sections: “This act does not authorize.” According to Black’s Law Dictionary, authorize means to give the authority for a person to carry out an act. Not to give the authority to act is not really the same as forbidding the act.

Notice also how Section 4.3 describes in the negative how the law affects employers: “not require,” “not prohibit,” “not prevent.” The section clearly articulates what the law does not do with respect to an employer, rather than affirming in the positive what the employer can do. Why? The law was crafted by strong proponents of marijuana use, and, as such, except for the taxation component, largely favors the drug user. In fact, the word “drug” appears in the law just 8 times, and only in connection with policy or education.

Moreover, some sections of the statute seem inconsistent with Section 4.3. E.g., Section 4.1(e) states that the law does not authorize smoking marijuana “where prohibited by the

person who owns, occupies, or manages the property,” but only consumption of marijuana isn’t authorized in a public place. An employee could easily argue that marijuana edibles are allowed to be consumed at a company, especially if no formal drug policy addressed these. Similarly, based on Section 4.1(g), cited above, an employee could contend that she’s entitled to smoke marijuana in her car on lunch break so long as it’s not parked on a public road.

Finally, Section 10.1(h) of the law states that

except as otherwise provided in Section 4 of this act or the rules promulgated thereunder, enrolling or employing a person who engages in marihuana-related activities allowed under this act are not grounds for arrest, prosecution, or penalty **in any manner**, are not grounds for search or inspection except as authorized by this act, and are not grounds to deny **any** other right or privilege. (Emphasis added.)

Okay, but it says Section 4 allows me to control what goes on in my shop- right? Not really! It is critical for an employer to understand the restrictive parameters of his or her actions under the new law. A careful read of Section 4.3 reveals that an employer can only act if an employee violates the workplace drug policy or because the employee was working while under the influence of marijuana. Unlike alcohol, no cost-effective and reliable test exists to determine impairment due to marijuana. THC, the psychoactive component in marijuana, can remain in a person’s system for 48 hours or more- long after the produced high. In other words, marijuana might be detected in an employee based on a drug test administered after a workplace incident, but the employee may not necessarily be under its influence if he ingested the drug days before. Moreover, the ability for marijuana to show up in a test seems to vary significantly from person to person based on regularity of marijuana use, body type, gender, and even age. The law does not define or include any criteria for impairment. Obviously demonstrating that marijuana contributed to a workplace incident can be quite challenging, to say the least.

But doesn’t Section 4 alone allow me to search the locker of an employee suspected of being under the influence of marijuana? No! Section 4.3 does not specifically address searches or inspections. The proviso “except as authorized by this act” attached to the search and inspection clause in Section 10.1(h) specifically refers to searches and inspections by state government of marijuana businesses involved in growing, transporting, and selling.

These facts leave the employer with really only one option under the new Michigan marijuana law: the workplace drug policy. In order to have any recourse under the new law, an employer must carefully craft and write a drug policy that addresses the actions now legal under the new law. The workplace drug policy cannot be a static document. It needs to be regularly modified and updated based on revisions to the state law as well as any regulations issued by the LARA. Finally, the employer must clearly communicate its drug policy to both employees as well as contractors, and this communication must be well documented.

Unfortunately, as the Michigan Chamber of Commerce and other critics have pointed out, Michigan's law doesn't specify whether an employer can enforce its drug-free policy when the employee is not physically in the workplace. Employees often travel and sometimes work at home. Questions abound- e.g., can a company withhold unemployment or workers' compensation benefits for an employee who flunks a drug test or is responsible for workplace injury related to marijuana use?

### Action to Take

#### What's Michigan Industry to Do?

As discussed above, a workplace drug policy is of paramount importance. Companies need to be clear about their drug policies and any drug testing requirements with both present and potential employees- from upper management to laborers. Specifically, companies should address whether marijuana use off the clock could affect their employment. Other items should also be addressed in the policy, including drug testing and surveillance, guidance for supervisors who suspect an employee working under the influence of marijuana, and employee responsibilities. Contractors and temporary personnel at an employer's facility should also be made aware of the drug policy. How the drug policy will be enforced needs to be considered and presented. Employers operating under contracts with the federal government should address the marijuana use provisions of the Michigan statute head-on in their drug policies given that marijuana is still illegal at the federal level. Finally, despite the state's legalization of recreational marijuana, it's important for industry to remember that the Michigan statute does not prohibit a zero tolerance workplace drug policy.

For at least the next couple of years, there will likely be legal challenges, heated debate, and much political wrangling over Michigan's new law legalizing recreational marijuana. Nevertheless, please pardon the metaphor, Michigan industry can ill afford to wait until the smoke clears. The time to act is now for the sake of production and the most valuable asset- your workers.

*The author, Michael Carlson, is principal of MEC Environmental Consulting, a health, safety and environmental services company specializing in regulatory analysis and compliance. Based in Royal Oak, Michigan, the company has provided professional expertise exclusively to industry for over 30 years. MEC Environmental Consulting offers gap analysis of company drug policies by comparing them to the Michigan Regulation and Taxation of Marijuana Act. This gap analysis service can identify vulnerabilities in a company's drug policy vis-à-vis the new Michigan marijuana law. The analysis can then be used by a human resources or other manager to modify their own workplace drug policy. The health, safety and environmental professionals at MEC Environmental Consulting can also amend or develop your workplace drug policy to minimize the effect of Michigan's new marijuana law on your operations. If you have any questions about these or other services, please call Michael Carlson at 248.585.3800.*

## GLOSSARY

Blunt - marijuana placed in a piece of tobacco paper or cleaned-out cigar for smoking.

Bong - a glass, ceramic, or plastic apparatus that is used to smoke cannabis. It is similar to a hookah in that the device filters smoke through water so that it may be cooled and possibly toxins removed before it is inhaled. The bong is one of many “marihuana accessories,” the definition of which is at Section 3(f) of Michigan Regulation and Taxation of Marihuana Act.

Budder - a creamy, wax-like concentrate of cannabis with a cannabinoid concentration of up to 80%. A type of dab.

Cannabis - the genus name of the plant, *Cannabis sativa*. Known as Indian Hemp, and more recently Industrial Hemp, one variety bred decades ago for its THC content is known as marijuana.

Cannabidiol (CBD) - generally considered the second most important cannabinoid. It tends to reduce the effects of THC. CBD works by inhibiting an enzyme, Fatty Acid Amide Hydrolase (FAAH), which is responsible for the breakdown of the Anandamide, one of the most important endocannabinoids. CBD is used in a variety of oils, supplements, and edibles for its anti-anxiety and other therapeutic properties.

Cannabinoid - the catch-all term for the many different chemicals found in cannabis, including THC and CBD. A few, short-lived cannabinoids, referred to as endocannabinoids, are produced naturally by the human body.

Cannabinoid Oil - a viscous concentrate of cannabis with a high concentration of cannabinoids. A type of dab.

Dabs - the catch-all term for marijuana concentrates produced by extracting cannabinoids like THC and CBD. The extraction process entails running a solvent - typically butane, carbon dioxide, or propane- through marijuana buds to pull out the cannabinoids, then evaporating the solvent and gathering residue left behind. (Michigan’s marijuana law at Section 4.1(d) “does not authorize” extraction by butane or propane.) Includes shatter, budder, and oils. The act of using dabs is called dabbing.

Delta Tetrahydrocannabinol (THC) - the most important of approximately 70 cannabinoids, it is responsible for the “high” that users enjoy. It activates the cannabinoid CB1 receptor, which is one of the most widespread receptors in the brain.

Endocannabinoids - neurotransmitters naturally synthesized by the human body on demand that . After being released, they are quickly broken down by enzymes. 2-arachidonoyl glycerol (2-AG) and anandamide are two major endocannabinoids.

Endocannabinoid System (ECS) - a biological system of the mammalian body comprised of endocannabinoids and two receptors, referred to as CB1 and CB2. CB1 receptors are found throughout the body, but mostly present in the brain and spinal cord. CB1 receptors are also found in nerve endings where they act to reduce sensations of pain. CB2 receptors are found mostly in the peripheral nervous system, and are concentrated in immune cells. Some scientists believe the chief function of the endocannabinoid system is to regulate homeostasis - i.e., the ability to maintain stable internal conditions necessary for life and health.

Grass - the herb form of cannabis.

Hashish or Hash - the resin form of cannabis.

Indian Hemp - a name for cannabis that has fallen into disuse. This term does not appear in the Michigan Regulation and Taxation of Marihuana Act

Industrial Hemp - another name for Indian Hemp. The term is widely used to emphasize the use of cannabis for fiber and other industrial applications rather than for recreational or medical use. The Michigan Regulation and Taxation of Marihuana Act at Section 3(e)(2) specifically states that marijuana does not include industrial hemp.

Joint - marijuana rolled in paper for smoking.

K2 - another name for spice. See Spice.

Marihuana - See Marijuana; also Note 1.

Marijuana - See Cannabis. The term sometimes refers to the herb form of cannabis, e.g., leaves and flowers.

Shatter - a smooth, glassy concentrate of cannabis that packs up to 80% cannabinoid content. The term stems from the fact that the extract often hardens into a glassy sheet, which, when dropped, shatters. However, it is sometimes in a thick, taffy-like form. A type of dab, shatter does through an additional filtration to remove waxes, oils, and terpenes, which give marijuana its flavor and smell. It is smoked in a glass "rig" which resembles a bong. The unit has a glass nail, which is heated with a torch to approximately 500° F. A piece of shatter is then placed atop the nail and immediately vaporizes.

Sinsemilla - a variety of marijuana developed in the late 1980s and early 1990s that was harvested from unpollinated female flowers. Sometimes called "skunk" because of its strong smell, but this term can also be used to refer to other varieties.

Spice - synthetic cannabinoids that molecules fully activate the CB1 receptor and are more powerful than THC. These are commonly advertised and sold on websites that often are labeled as incense or with the caveat "not for human consumption." Spice can cause agitation, anxiety, paranoia, and psychosis. Synthetic cannabinoid users are 30 times more likely to end up in an emergency room than users of traditional cannabis.

Tetrahydrocannabinol - See Delta Tetrahydrocannabinol.

Tetrahydrocannabinolic Acid (THCA) - the most abundant non-psychoactive cannabinoid found in raw cannabis. It does not seem to directly impact the CB1 receptor, but does regulate other components of the endocannabinoid system. THCA converts to THC when heated or dried.

THC - See Delta Tetrahydrocannabinol.

Weed - the herb form of cannabis.

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#### NOTES

<sup>1</sup> The statute uses the original spelling of the drug name with a “h” instead of a “j.” This spelling is consistent with most other states with legalization legislation. The more familiar spelling with a “j” is used in this article except in quoting sections of the law.

<sup>2</sup> Tatiana Ogourtsova, T., Kalaba, M., Gelinis, I., et al., “Cannabis use and driving-related performance in young recreational users: a within-subject randomized clinical trial,” *Canadian Medical Association Journal*, October 15, 2018.

<sup>3</sup> Hall, W, Degenhardt L., “Adverse health effects of non-medical cannabis use,” *Lancet* 374 (9698), 2009, pp. 1383-91.

<sup>4</sup> Batalla, A., Bhattacharyya, S., Yücel, M., et al. (2013), “Structural and functional imaging studies in chronic cannabis users: a systematic review of adolescent and adult findings,” 2013, *PloS One*. 8(2):e55821.

<sup>5</sup> National Academies of Sciences E, and Medicine, “The health effects of cannabis and cannabinoids: Current state of evidence and recommendations for research,” Washington, D.C., 2017.

<sup>6</sup> Ibid.

<sup>7</sup> Volkow, N.D., Swanson, J.M., Evins, A.E., et al. (2016). “Effects of cannabis use on human behavior, including cognition, motivation, and psychosis: a review,” 2016, *JAMA Psychiatry*, 73(3):292-297.

<sup>8</sup> Volkow, N.D., et al., “Adverse Health Effects of Marijuana Use,” *New England Journal of Medicine*, June 2014, 370(23):2219-2227.

<sup>9</sup> Murray, R.M., Quigley, H., “Traditional marijuana, high-potency cannabis and synthetic cannabinoids: increasing risk for psychosis,” *World Psychiatry*, 2016 Oct, 15(3):195-204.

<sup>10</sup> Murray, R., “Appraising the Risks of ‘Reefer Madness’,” January 7, 2015.

<sup>11</sup> “Cannabis increases the noise in your brain,” *Biological Psychiatry*, 2015.

<sup>12</sup> Moreau, J.J., “Hashish and Mental Illness” (Raven, New York, 1973).

<sup>13</sup> Murray, D.W., Blake, B. & Walters, J.P., “Marijuana Threat Assessment, Part One: Recent Evidence for Health Risks of Marijuana Use,” Hudson Institute, November 2016.

<sup>14</sup> Landau, M.D., “What Is CBD? Everything to Know About the Weed Derivative Everyone's Buzzing About,” *Life*, November 9, 2018.

<sup>15</sup> Ibid..

<sup>16</sup> Ibid..