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## The future of cannabis is vaping — here's how it works

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The days of rolling joints are coming to an end. In 2017, more and more people are choosing to consume marijuana electronically.



*Thomson Reuters*

Just like so many things about life in the post-smartphone world, cannabis is being made more convenient and accessible through modern technology. Rather than buying cannabis, rolling a joint, and burning plant matter, more and more people are turning to vaping — a far easier, more modern way to consume cannabis. You simply purchase plant matter or a small cartridge of oil (depending on the vaping device), load it into an inexpensive pen, and you're ready to go.



The Bloom Farms "Highlighter" is a simple, inexpensive vape pen that can be used with exchangeable cartridges.

*Bloom Farms*

As laws allowing adult cannabis use continue to pass in states across the US, cannabis oils, in particular, have increased in popularity — and they're sure to continue on that path. It's easy to see why: They're inexpensive, easy to use, and discreet. In California, the largest state economy in the US, companies like [Bloom Farms](#) and [Dark Heart](#) are pioneering leaders in the cannabis oil market. Their products look just like the easy-to-use, crowd-friendly vaporizers seen above.

But what in the world is cannabis oil? How is it made? Is it safe? Here's what we know about cannabis oils, the future of mainstream cannabis use.

## How do you "vape" cannabis?



A woman uses an electronic vaporizer with cannabidiol (CBD)-rich hemp oil while attending the International Cannabis Association Convention in New York.

*Eduardo Munoz/Reuters*

There are two primary ways to vape cannabis: Vaping cannabis oil, or vaping cannabis itself.

Companies like Pax offer devices for vaping plant matter — you insert a small amount of crumbled cannabis into the device and it heats up just to the point of burning psychoactive components like THC. Those are popular, but far more popular are devices that vaporize cannabis oil — sold in disposable cartridges, easy to carry, and none of the hassle.

There are several different devices for vaporizing cannabis oil, but the most common is the vape pen you see above. It's a simple, disposable device that can be used with simple, disposable cannabis oil cartridges. The pen component recharges via USB (or plugs into a wall with a USB adapter), and charges often last for at least one day.

Due to the universality of cannabis oil cartridges, they can be plugged in to most tobacco vaporizers — if you want to use your own rig for whatever reason, you likely can.

In the case of the standard vape pen, there is no concept of "on" or "off." You simply pull from the mouthpiece of the pen and it lights up, slightly heating the oil and enabling you to inhale cannabis oil vapor.

## What is cannabis oil?



Bloom Farms

Instead of thinking of cannabis oil as a single product, think of it like a product category. Here's how Bloom Farms CEO Michael Ray described cannabis oil in a recent interview with Business Insider:

"Cannabis oil is the essential oil of the plant. Much like lavender oil, or other essential oils, cannabis oil is extracted from the plant materials and that's about it. It's the essential oil of the cannabis plant."

Ray is speaking to the direct product of extraction — as you might've guessed, cannabis oil is derived from the same plant matter that's normally found inside of joints. Since there are different methods for extracting cannabis oil from cannabis plants, there are also many different results of different types of extraction.

What you get from any given provider of cannabis oil can differ greatly. Some cannabis oil makers blend their product with the oils of other plants (like peppermint or lavender); some makers only offer ultra-high potency oil, and some make a variety of options.

In the case of Bloom Farms, a popular brand in California, extraction means more than just distilling the main psychoactive ingredient (THC). Here's Ray:

"There are thousands of elements. Everything that gives it any sort of flavor and smell (those are 'terpenes'); in cannabis you have several cannabinoids (whether it be CBD, THC, THC-A, THC-B). It can turn into a very complex conversation. But what it is: It's 100% cannabis oil, and in it is everything that makes up cannabis."

## What's in cannabis oil?



### LOW POTENCY ALCHEMY

Relax, Awaken, Inspire and Explore are available in a 30% consistent THC potency, provided in a 3/4 gram cartridge. This CO<sub>2</sub> extracted cannabis oil and botanicals are crafted to enhance, not overwhelm.



### HIGH POTENCY ALCHEMY GOLD

Relax, Awaken, are also available in a 70% consistent THC potency, provided in a 3/4 gram cartridge. This CO<sub>2</sub> distillate extracted cannabis oil and botanicals are crafted to fit your life.

*Dark Heart*

Since cannabis oil is the derivative of cannabis plant matter, it contains many of the same elements. These include but are not limited to the following:

- Psychoactive properties, created by "cannabinoids" like THC.
- Terpenes (the millions of naturally-occurring chemicals that give cannabis its flavor and smell).
- Non-psychoactive cannabinoids like CBD.

In the case of a company like Dark Heart, which makes the Alchemy line of vape pens and vape pen cartridges, those elements are mixed with traditional aroma therapy essential oils like lavender and chamomile. Here's Dark Heart marketing manager Savannah Hanks explaining how that works:

"For example: We have 'Awaken,' and this one is a Sativa [a type of cannabis]. But it's also got known aromatherapy terpenes in it such as peppermint and lemongrass and citrus, which are known to be very energizing botanicals. So we combined that with a Sativa to make a very energizing experience when you consume the cannabis."

The idea with a product like Alchemy from Dark Heart is that you're buying an experience ("awaken") rather than having to know about THC amounts of types of cannabis. Dark Heart also offers a more traditional high-potency oil if you're looking for something more straightforward.

## How is cannabis oil made?

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Traditionally, cannabis oils and other derivatives were made using petroleum-based solvents like butane. This is considered unsafe due to the explosive solvents used in production, and has been replaced by CO<sub>2</sub>-based extraction methods in many cases.

"Some people use butane. Some people use propane. Some people use hexane. All of those ones I just mentioned are petroleum-based solvents that have the potential — when used in unsafe environments — to explode. We use strictly CO<sub>2</sub> because we feel it's the safest, most efficient way to derive the oil," Bloom Farms CEO Michael Ray told us.

The other benefit of CO<sub>2</sub>, manufacturers told us, is it doesn't leave behind any residual traces — a potential risk with petroleum-based solvents. "If produced incorrectly," Ray said, "there can be residual butane left in the product."

## Is it safe?

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The Pax Era is a proprietary vape pen from the Pax company. It's another option for vaporizing cannabis, albeit one that's less open-source than the rest.

*Pax Labs*

The spectre hanging over cannabis consumption — smoking, vaping, or otherwise — is the presumption of safety. The real answer to the question, "Is cannabis oil safe for consumption?" is "Nobody really knows."

Bloom Farms CEO Michael Ray offered a good snapshot of how little we know: "Well, what I can say is that we feel...Common sense leads to low-temperature vaporization being exponentially safer than the inhalation of smoke."

He's not wrong — vaping does "feel" safer, both perceptually and in practice. "When I smoke cannabis, my respiratory system just doesn't feel right," he said. "I get inflammation in my respiratory system, it feels like to me. This is evident when I go to sleep at night — I don't sleep well, and I'll snore. With vaping, I don't get any of those negative side effects that I get with smoking."

That is, of course, anecdotal. There are no studies actually comparing the health effects of vaporizing cannabis oil with traditional cannabis consumption (smoking plant matter).

"Cannabis obviously has very limited data behind it as it is because of the inability to do any real testing in a professional setting," Savannah Hanks of Dark Heart said. Her company, along with Bloom Farms, use third-party testing services [like](#)

[CW Analytical](#) to assure their products are meeting the standards they set. But, even in California, there are no regulations governing what can and can't be in cannabis oil.

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## How many people are using cannabis oil?

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Eaze

Cannabis oil cartridges are, unsurprisingly, really popular. Emerging from relative obscurity in just the last few years, cannabis oil cartridges are quickly gaining on bud sales in California. According to data collected by Eaze, a kind of Uber for weed that operates in California, cartridge sales have leapt from representing just 6% of overall product sales in 2015 to a whopping 24% in 2016.

In that same time period, sales of traditional cannabis dropped from representing nearly three quarters of all sales to around half. To say that vape cartridges are getting more popular by the day is to vastly undersell how rapidly they're catching on with buyers.

There's good reason for that, Ray said:

"The first reason that's very obvious is the convenience. You don't have the downsides of smoking — the smell, the need to carry around flower [bud], the need to find a way to consume it. Essentially the disruption of what it takes to smoke vs vape. It's just very easy. It fits in your pocket, it doesn't disturb the people around you, it doesn't smell like cannabis. For a lot of people, especially the casual consumer, that's very important."

Another good reason cannabis oil vaping is so popular? It removes much of the traditional stigmas associated with buying and consuming cannabis. It's a friendlier product than traditional cannabis, and it uses far less jargon in product descriptions.

"Maybe I need a mood enhancer," Hanks said. "I have a really stressful day/life/career, and I need something that takes the edge off. I don't have to be high, I just want to be 'elevated' (if you will). The vape pen cartridge is more of the mainstream

for that group."

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