

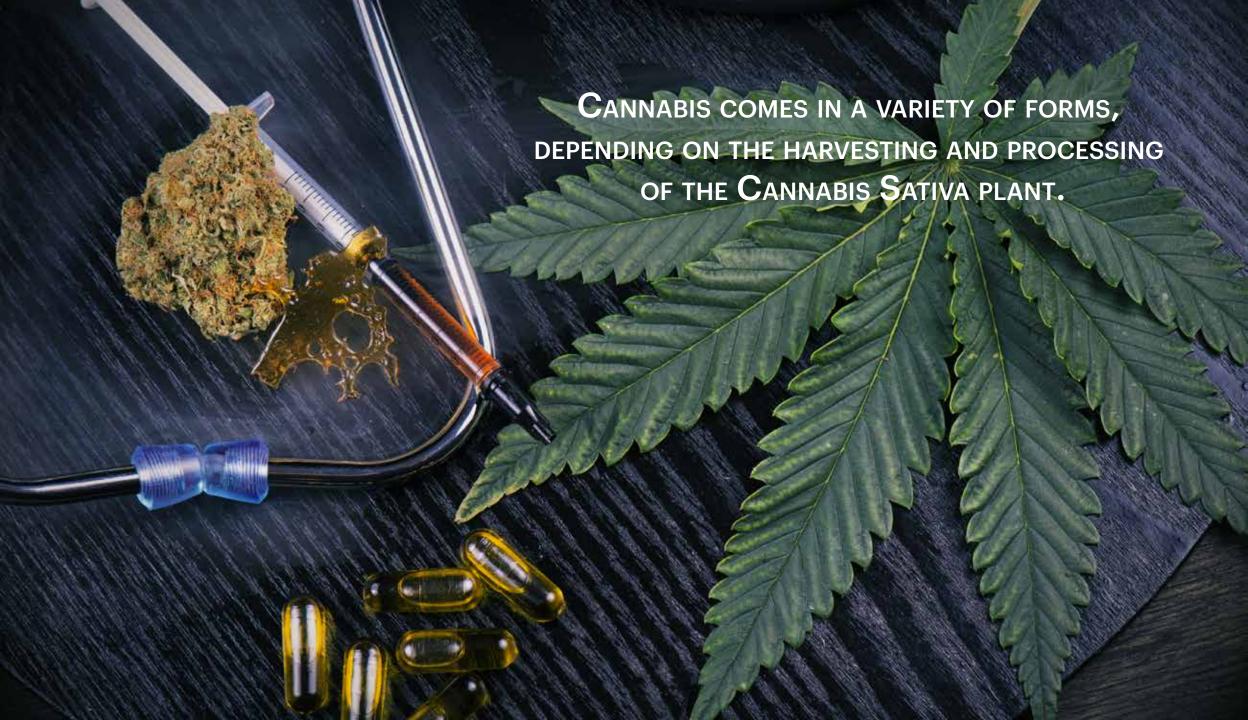
# MARIJUANA OR CANNABIS?

The word "cannabis" includes all the products that are derived from a plant called *Cannabis* sativa, including ~100 cannabinoids that interact with the body's endocannabinoid system.

People often use the words "cannabis" and "marijuana" interchangeably, but they are different. Marijuana is a term that is commonly used to refer to the parts or products of the Cannabis sativa that contain a substantial amount of THC, the psychoactive cannabinoid in cannabis.

In other words, all marijuana is cannabis, but not all cannabis is marijuana.

For the purposes of this guide, when we use the word "cannabis," we are referring to the parts and products of Cannabis sativa that contain THC.





# FLOWER OR BUD

This basic form of cannabis has changed a lot over the last 25 years. The average THC concentration in cannabis samples from 25 years ago was about 4%. Samples from recent years show average THC concentrations ranging from 12% to 20%. Samples can now test above 30%, especially with designer strains.

That means that a person who smokes cannabis today is getting **3 to 7 times as much of the psychoactive component** on average, compared to a smoker from 25 years ago.

In addition, the percentage of CBD, which counteracts THC's overstimulation of the brain's CB1 receptors, has been going down. The THC:CBD ratio has gone from 14:1 to 80:1 in the last 20 years. This means that the user is more likely to experience the psychoactive and anxiety-inducing effects of THC.

### KIEF AND HASH

#### Kief

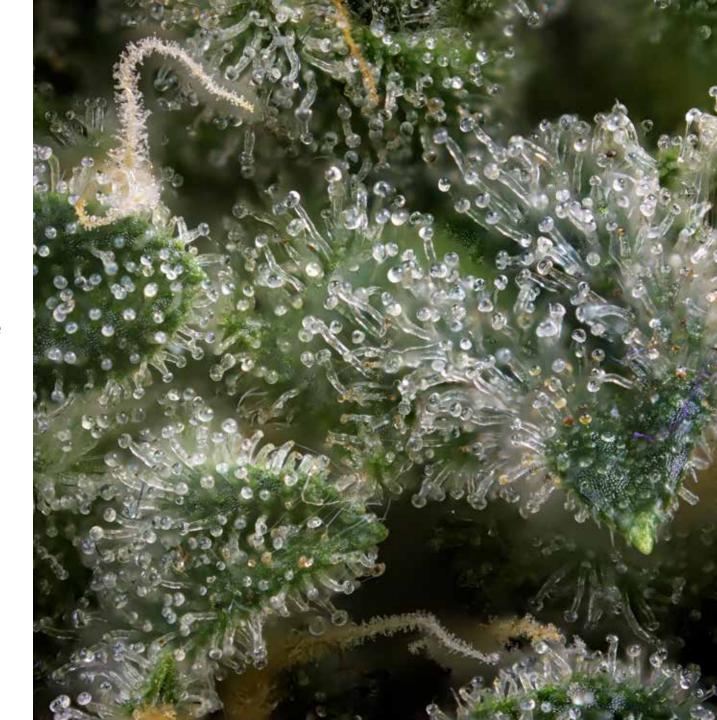
The trichomes of a cannabis plant contain a higher percentage of THC than the rest of the plant. The trichomes are the small, white balls on tips of the leaves. Kief is formed by grinding, filtering, and sifting out the trichomes.

A bud which includes the trichomes can contain up to 20% THC. After filtering out the rest of the plant, the **kief contains 50%-60% THC**.

#### Hash

Hash (e.g., pressed kief, bubble hash, rosin hash) is a resin cake or ball formed out of pressed kief. To make hashish, the ground-up, dried leaves are sifted through a screen and the powder resin is pressed to make a brick.

Hash can exceed 60% THC.





#### What to look for:

Users of kief may buy pre-ground kief or may grind it themselves. If they are grinding it, they will probably have a multi-level grinder.

DIY versions may look different than these examples, but any grinder that is used will have to have a fine mesh, as the trichomes are very small.

To smoke the kief or hash, a user can use a variety of options, such as a bong, vaping pen, or pipe.

- Multi-level grinders
- DIY version w/fine mesh screens
- Silicone containers
- Pipes, bongs, and vape pens

## **BUTANE HASH OIL**

Butane hash oil is a potent form of cannabis concentrate. The name comes from the fact that butane is the solvent used to extract the oils from cannabis. Butane hash oil is commonly referred to as BHO or 710 (which is a reverse acronym for oil).

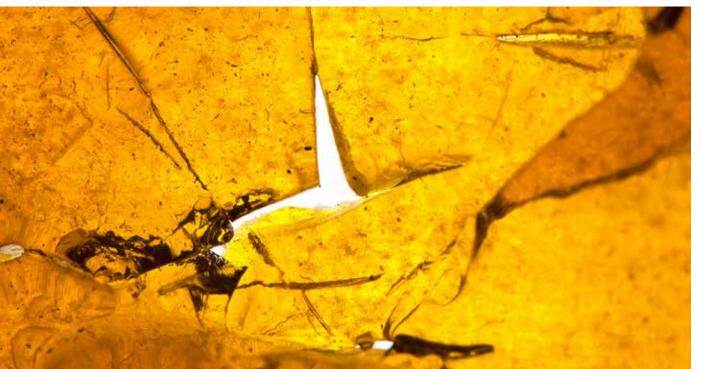
BHO comes in various consistencies, depending on the temperature, time, and agitation method used for processing. The various forms of BHO are called oil, shatter, wax, budder, crumble, or glass.

# Concentrates vary in percentage of THC, but can be as high as 90%.

Oil is what we call the loosest consistency of butane hash oil. It's sticky and only a bit thicker than a liquid. Oil is the hardest to handle, so it's one of least popular forms of BHO.







Budder and wax are more common forms of BHO. They are somewhat sticky and generally handled with a tool and stored in a silicone container.

Shatter or glass is the purest form of BHO. It's not sticky so it can be handled without a tool, and it's usually a translucent, honey color. Shatter, as the name implies, will shatter if it is dropped.

Concentrates are usually ingested by either dabbing or vaping. Dabbing is when the concentrate is placed on a hot surface, which creates a vapor that is breathed in. When the surface (nail) is heated, toxic chemicals are released along with the marijuana vapor.

Vaping is similar to dabbing, but a vape pen is used. The vape pen houses a coil which is heated to create the same effect.

#### What to look for:

DIY dabbing or vaping can be done with a nail and a torch as well as some sort of rig which sends the vapor to the user.

The wand/dabber often looks very similar to a dental tool and is used to handle the BHO and put it onto the heated surface (the nail or the vape coil, etc...).





- Silicone or glass containers
- Dabbers (may look like dental tools)
- Butane torch/fuel canister or electronic rigs
- Vape pen and coils



## MAKING CONCENTRATES

Making BHO in a home lab is dangerous but users still engage in the practice. There are two primary DIY methods.

#### Butane method

Essentially, butane oil is filtered through dried cannabis buds or kief to create a liquid mixture of butane and cannabis. Then the butane is purged through evaporation.

Butane is highly flammable, which is the primary reason that this process is so dangerous. DIY processing also leaves neurotoxins behind when a bottle or pipe is used. It may also leave butane residue in the cannabis.

- Butane fuel canister
- Strainer
- Heating pad/dish
- Silicone container

Dabber

#### Rosin method

The rosin method is safer and probably less expensive. For the rosin method, dried buds or kief are placed in the fold of a piece of parchment paper. A hair straightener (with pressure applied by squeezing) is used to heat the cannabis, press it, and create the oil.

- Hair straightener
- Parchment paper
- Silicone container
- Dabber





## **EDIBLES & DRINKABLES**

Cannabis edibles and drinkables are either homemade or commercially produced food or drink products infused with THC extract. This includes gummies, baked goods, chocolates, and beverages.

There is **little to no THC flavor or odor**, and it is hard to know the concentration of the THC when they're homemade.

When users smoke or use cannabis concentrates, the effects are felt quickly. However, when THC is ingested in food or drink, it is processed differently in the body. There is a **delay of 1-3** hours before the effects are felt, which can lead to accidental overconsumption. New, nanoemulsified products offer faster onset.

## **DERIVATIVES & SYNTHETICS**

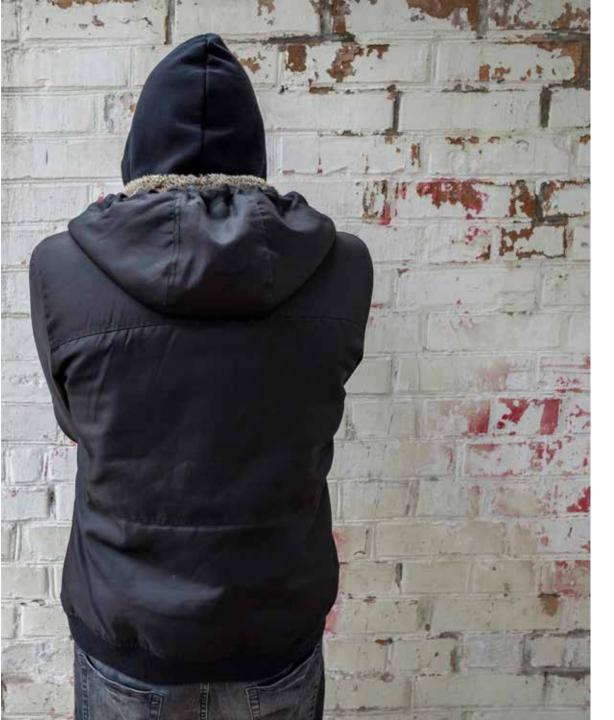
Some derivatives of THC are considered legal under the 2018 Farm Bill, even in states where Delta-9 THC is illegal, and therefore, **may be found in commercially sold products.** 

Some of the common derivitaves include:

- HHC (Hexahydrocannabinol) a naturally occurring cannabinoid that has been altered; may be used for a relaxing effect ~70–80% as potent as Delta-9 THC
- Delta-8 THC may be used for a sedating effect
  - ~50–60% as potent as Delta-9 THC
- Delta-10 THC may be used for an energizing, focusing effect
   ~30–50% as potent as Delta-9 THC

Synthetic cannabinoids like "Spice" or "K2" are completely synthetic chemicals that mimic the effects of THC, but pose serious health risks and should not be confused with natural cannabis.





# **ADDICTION & WITHDRAWAL**

It used to be thought that cannabis was non-addictive, but with the increased potency of THC, addiction and withdrawal have become more apparent.

Research shows that **about 9% of those who experiment with marijuana** will become addicted.

17% of those who start using as teenagers will become addicted.

Daily users are the most likely to become addicted, with addiction rates of 25% to 50%.

Withdrawal symptoms includes increased anger, irritability, depression, restlessness, headache, loss of appetite, insomnia and severe cravings for cannabis.

## DANGER

While it is virtually impossible to overdose on cannabis due to the way that it is processed through the body, cannabis does cause quite a few psychological and physical effects, as well as addiction.

Higher concentrations of THC result in more extreme reactions, including extreme paranoia, feelings of "depersonalization," fainting or passing out, excited delirium, a feeling of being "frozen in time," a sense of exiting the body, or a loss of reality.

Users experiencing these kinds of effects have done things like jump out of moving vehicles. An increase in ER visits has been seen in states where cannabis has been legalized.

Long-term, frequent cannabis users may also experience recurrent episodes of severe nausea, vomiting, and abdominal pain. This is called Cannabis Hyperemesis Syndrome (CHS).





# **DETECTION**

The newer forms of cannabis are challenging to detect:

- Edibles and drinkables do not have an odor.
   Concentrates, depending on the kind and how they are ingested may have no odor or very little odor that dissipates quickly.
- 2. Concentrates and edibles are **easier to physically hide**. A piece of parchment paper with concentrates folded into it can be hidden practically anywhere. Edibles look like any other kind of food.
- 3. Vaping pens for cannabis look very **similar to nicotine vaping pens** and again, there is no odor.

New detection tools include:

- oral fluid tests
- canine units
- breathalyzers

