

ESSENTIAL DIY **CANNABIS** **CONCENTRATES**

READERS BASIC GUIDE TO ORIGINAL METHODS FOR
MARIJUANA EXTRACTS, OILS AND CONCENTRATES



LISA H. GREGORY PHD

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INTRODUCTION

From weed oil cartridges to medicated muscle creams, you can find cannabis concentrates in hundreds of products. Concentrates are products made from the cannabis plant that have been processed to keep only the most desirable plant compounds (primarily the cannabinoids and terpenes), while removing excess plant material and other impurities. Ounce for ounce, marijuana concentrates have a greater proportion of cannabinoids and terpenes when compared to natural cannabis flowers.

Concentrates can also help increase the potency of your flower. The next time you pack a bowl with cannabis flower, try sprinkling kief on top, or add drops of concentrate oil to cannabis flower before rolling your joint. Cannabis concentrate products can also be consumed on their own. For example, concentrates can be vaporized using a portable vaporizer or dab rig (this activity is referred to as “dabbing”). Dabbing has quickly become one of the most popular consumption methods in the market.

In order to prepare yourself for the diverse world of cannabis concentrates, it’s important to learn about each type, how to dab or consume them, as well as how they are made. That way, the next time someone asks you: what is marijuana wax or cannabis concentrate? You can bestow your newly acquired wealth of knowledge upon them.

CONCENTRATE TEXTURES

Concentrates let you experience cannabis in a multitude of ways; they come in a variety of textures and can be consumed using several different methods. Concentrates let you experience cannabis in a multitude of ways; they come in a variety of textures and can be consumed using several different methods. The look and feel of a concentrate doesn't necessarily indicate its level of quality (effects, flavor, and potency); these are simply aesthetics that can help you keep track of your personal preferences.

One of the leading benefits of concentrates is the rapid onset time and the ability to yield a high more potent than consuming cannabis flower. Concentrates have a high bioavailability, meaning the effects you feel and experience, as well as the rate of absorption into your body, happen almost immediately. The effects of a cannabis concentrate can last anywhere from 1 to 3 hours, depending on the person. A cannabis concentrate (also called marijuana concentrate, marijuana extract, or cannabis extract) is a highly potent tetrahydrocannabinol (THC) and/or Cannabidiol (CBD) concentrated mass. Marijuana concentrates contain extraordinarily high THC levels that could once range from 40 to 80%, up to four times stronger in THC content than high grade or top shelf marijuana, which normally measures around 20% THC levels. By 2017, distilled concentrate was reportedly available at 99.58% THC content.

Volatile solvents such as ethanol, butane, propane and hexane are often used to prepare extracts, leading to fire and explosion hazards in uncontrolled environments. Super-critical fluid extraction using carbon dioxide alleviates concerns of fire and explosion and results in a high quality product.

Legally produced concentrates for retail sale in legalized states are often packaged in small lip-balm sized containers. In states like Colorado, because the legality of the cannabis concentrates there are heavy regulations on the containers that hold the concentrate. They must be child-resistant, opaque, and have a multitude of legal text warning the

consumer of the risks of consumption. Along with the regulation on the containers that hold the concentrate, the Marijuana Enforcement Division (MED) regulates almost every facet of the cannabis seed to sale process. This of course encompasses the creation or extraction of cannabis extract.

CANNABINOIDS

There are two prominent cannabinoids found in cannabis: CBD and THC. Each cannabinoid has unique properties that produce different effects and levels of potency.

CBD

CBD is commonly known as the non-psychoactive property that has become popular in wellness products because of its healing, calming, and anti-inflammatory properties.

THC

THC is the psychoactive element that's known to produce a joyful, euphoric experience, and depending on the plant strain, the level of THC varies along with the potency.

Terpenes

Terpenoids or terpenes are the aromatic components of oils within the cannabis flower and most notably, responsible for the indistinguishable aromas and scents of cannabis. However, terpenes are not only found in cannabis but within all plants and fruits. Specifically, in cannabis plants, there are over 200 terpenes that produce common aromas like berry, citrus, mint, and pine. That's why it's important during the extraction process to keep terpenes, so the end product still has the aromas and flavors that are enjoyed with traditional flower.

WHAT IS A CONCENTRATE?

First things first, before getting into the different types of concentrates readily available to you, it's important to gain an understanding of what a concentrate is. You may have assumed from the name "concentrate" that these products are concentrated forms of marijuana.

This means that the cannabis plant material has undergone a process that leaves you with a more potent form of the good stuff. This process, called extraction, involves removing the excess plant matter so that all you have left are the cannabinoids and terpenes. Cannabinoids and terpenes are what this plant is known for. The two main cannabinoids found in Marijuana are THC and CBD. While THC levels can vary between strains, or even different batches, concentrated extracts are often highly potent and high in THC. THC is the psychoactive cannabinoid that is responsible for giving you that euphoric high while CBD is the non-psychoactive one known for its range of healing benefits. You are able to purchase concentrates that are both cannabinoids together or that are CBD exclusive, depending on what you're looking for. Terpenes are responsible for the aromas that come with marijuana that we all know and love. And keeping these intact during extraction leads to a more enjoyable experience.

There are different methods of extraction, but the most common are the BHO, or hydrocarbon extraction, and CO2 extraction. These different methods of extraction produce a variant of products, which we will break down for you next. Concentrates come in many forms and include the most desirable parts of something. For example, orange juice concentrate has the smell and taste of the orange fruit, but without the excess fluid, peel or pulp. The same is true for the cannabis plant: the aromas, flavors, and other desirable substances can be retained while removing the leaves, stems, and other unwanted materials.

EXTRACTS

Extracts are a specific type of concentrate that use solvents to draw out the desired substances of a plant, seed or fruit. For example, vanilla extract is produced by using alcohol as a solvent to pull out the desired flavor component, vanillin, from vanilla bean pods.

The cannabis plant has complex compounds, or chemical substances, that can be used in a multitude of products. These compounds affect the look, smell, flavor, and texture, as well as physiological or psychoactive effects (if any) of cannabis products. The most desirable cannabis compounds are found throughout the cannabis plant in small, sparkling structures called trichomes. A cannabis concentrate refers to any product created by the accumulation of the trichomes from the plant.

WHAT'S BUTANE EXTRACT?

The process of making butane hash oil (BHO) begins by adding the solvent to fresh, frozen flower or cured bud (flower that has been properly dried for optimal potency and flavor). It strips the essential oils from the plant and the final product is an extract that retains all of the cannabinoids and terpenes. Once it's purged in a vacuum oven, the extract can go on to become shatter, crumble, wax, budder, sauce or live resin.

WHAT'S CARBON DIOXIDE EXTRACT?

This method uses carbon dioxide, a naturally occurring gas that we breathe out, instead of chemical solvents. By exposing the combination of cannabis and gas to high temperatures and pressure, you get a crude extract that requires distillation. Distillation is a process that further refines the product and allows manufacturers to isolate cannabinoids. It all sounds very scientific but you've already encountered carbon dioxide extracts if you've ever inhaled a vape cartridge, eaten an edible, or rubbed on a topical. And this is the same stuff that serves as the basis of concentrates like waxes, crumbles, shatter, and budder.

WHAT'S SOLVENTLESS EXTRACT?

Instead of using carbon dioxide or butane, these concentrates are made via applied heat and pressure. The two most common types are dry sift or dry sieve and ice water hash or bubble hash. Dry sift or dry sieve gets its name from the process of rubbing or rolling dried flower over a sieve to collect trichomes, which are the resin glands of the cannabis plant. You'll also hear people call this product kief and it looks like a crumbly off-white powder. Ice water hash or bubble hash is a method of extracting involving tumbling cannabis flower through ice water, filtering it through fine mesh, and letting it dry before you consume it. This product can range from dry and chalky to greasy.

Dry sift can be sprinkled over a bowl or a pre-roll but it can also be pressed into hash or made into rosin. Ice water hash, if it's high quality, can be dabbed as is (more on what this means later) or transformed into rosin, which is another kind of concentrate.

TRICHOME COVERED CANNABIS

The most desirable cannabis compounds are found throughout the cannabis plant in small, sparkling structures called trichomes. These frosty appendages coat the entire surface of the plant, especially the flower buds. Trichomes contain all the cannabinoids (THC, CBD, etc.) and terpenes that give different cannabis cultivars, or strains, their unique aromas and physical effects.

Compared to the raw plant form of marijuana, cannabis concentrates offer a more potent high, quicker onset of action, and a wider range of consumption methods. Depending on your consumption preferences and tolerance level, the ideal dose can vary widely from person to person and even product to product.

Compared to the raw plant form of marijuana, cannabis concentrates offer a more potent high, quicker onset of action, and a wider range of consumption methods. Cannabis concentrates are diverse and used in a wide range of products. With a selection of options, you can fine-tune your cannabis experience and find the ideal combination of cannabinoids and terpenes that appeals to your taste and provides the most benefit.

IS THERE A DIFFERENCE BETWEEN A CONCENTRATE AND AN EXTRACT?

All extracts are concentrates, but not all concentrates are extracts. While those terms are used interchangeably, the primary difference between a concentrate and an extract is how trichomes are collected. Extracts are a type of concentrate created using solvents (alcohol, carbon dioxide, etc.) that essentially wash the trichomes off the cannabis plant. Concentrates made without the use of solvents are produced using mechanical or physical means to remove and gather trichomes. Butane Hash Oil (BHO), Rick Simpson Oil (RSO) and CO2-extracted cannabis wax are examples of extracts; each of these comes in varying textures such as shatter, badder, budder, and crumble. Different extracts and the varying textures may yield different experiences from one product to another. Rosin, dry sift and kief are examples of concentrates that are made without using solvents.

HOW TO TALK ABOUT CONCENTRATES

“Reduced Fat Homogenized Ultra-Pasteurized Milk” is also known as “2% milk,” but that may sound baffling until you’re familiar with the product and its name. Once you familiarize yourself with the terminology used with concentrates, the more comfortable you’ll feel when reviewing descriptions and labels. The product names can seem complex. For example, a product named “Hardcore OG Nug Run Shatter” may sound confusing. What do each of these words mean? Producers and manufacturers use specific words and phrases to help you identify key characteristics and qualities of cannabis concentrates. Certain terms may be used on labels and descriptions on concentrate products to identify:

THE TYPE OF CANNABIS PLANT MATERIALS USED TO MAKE THE CONCENTRATE

Input Materials

Everything starts off with cannabis plant material. The cannabis plant's flower buds, leaves, and stems are collectively referred to as the starting, or input material. The input material can alter the resulting cannabinoid and terpene profile of the cannabis concentrate. Additionally, the quality or grade of the input material also affects the potency and flavor of its resulting concentrates.

Process Type

Cannabis concentrates are products created by the accumulation of trichomes (the gland that makes the cannabinoids and terpenes). There are a variety of ways to separate the trichomes from the starting material. Each of these processes needs its own specific materials and/or physical actions, or methods, in order to produce a concentrate.

Consistencies

Once the cannabinoids and terpenes have been removed from the plant material, the resulting solution can take a variety of forms. These forms allow patients and consumers to pick and choose their preferred texture of the concentrate product; they aren't necessarily an indicator of how the concentrate will taste or affect an individual. Once the cannabinoids and terpenes have been removed from the plant material, the resulting solution can take a variety of forms. (Photo by: Gina Coleman/Weedmaps)

Dabbing Equipment

Concentrates are safe, yet potent. To consume a cannabis concentrate safely and effectively, you must have a specific setup with the appropriate equipment in order to properly activate the concentrated cannabinoids and terpenes. A fair amount of thought should be put into the components

when building the ideal dab rig. For instance, some users prefer to dab their concentrates on a titanium nail, while others might opt for quartz nails or bangers. While quartz is less durable than titanium, it heats up much faster than titanium and offers a cleaner taste. Depending on the banger nail, most users will heat it up for around 30 seconds or until the banger starts to show an orange or red hot glow.

Textures and Consistencies

Terms like shatter, budder, crumble, sugar, oil, and sauce refer to a concentrate's appearance (texture, color, and malleability). In other words, these terms simply inform us about the look and feel of the concentrate. For example, a concentrate product with the name "Nug Run Blue Dream Shatter" tells you three things:

The strain of the cannabis plant used was "Blue Dream"

"Nug run" indicates that the plant material used to make the extract was dried and cured flower

The extract has a "shatter"-like consistency and texture

The following terms describe the most common concentrate textures found in the market.

Shatter, Budder, Budder, and Crumble

Shatter is known for its brittle, glass-like texture. It can also have a snap-and-pull consistency. (Imagine taffy candy being pulled really tight before snapping). Shatters usually have a golden yellow to bright amber color throughout.

Budder and Budder are oilier and softer in texture. (Think of a stick of butter or cake batter.) They're malleable, easy to handle and have a sun yellow to bright orange coloring. The butter-like consistency allows the extract to be easily used as a spread on blunts or joints, or to be dabbed using a dab rig.

Crumble is a brittle version of budder or budder. As the name suggests, it has a crumbly-like honeycomb consistency. The color tends to be similar to budder or budder, but instead of having a glossy texture, they tend to have a matted shade of yellow.

Sugar, Sauce, and Crystalline

Sugar is a term used for any concentrate that has a similar consistency to wet, sappy sugar. They're not uniform in nature and typically have colors ranging from a bright yellow to a deep amber. Sauce is thicker, more

viscous in texture and looks stickier. The color of sauce can range from deep amber to bright mustard. Sauce is similar to sugar in both its consistency and color, but has a more uniform and prominent crystalline structure. Crystalline is a single, crystallized compound. Just as the name implies, THCa and CBD crystalline are white crystals that can vary in density and size from small rocks to powder.

CONSUMPTION METHODS

Smoking Methods

A cannabis concentrate can be consumed in a variety of ways, from sprinkling it on a bowl or adding it to a joint for added potency, to vaporizing them using a dab rig or portable vape pen. The ideal method for consumption depends on the type and texture of the selected concentrate as well as the personal habits of the person consuming. When deciding which method will work best, first consider the tools you have at your disposal and the texture of the concentrate. Perhaps you've seen extracts like shatter and badder and wondered how best to smoke them? These extracts are malleable and easy to use in a dab rig, while powdery concentrates, such as kief and crumble, can be easily enjoyed by adding them to a more stable foundation like flower. Here are some of the most common methods for smoking or vaporizing concentrates.

Topping Your Flower

Adding powdered kief to your bowl, or wrapping wax around a joint, are the most cost-effective methods to using cannabis concentrates. These methods don't require any of the expensive tools necessary to dab oil, while still increasing the potency of your smoke and adding extra flavor from the concentrate.

wax and Cannabis Concentrate on Bowl

Adding powdered kief to your bowl, or wrapping wax around a joint, are the most cost-effective methods to using cannabis concentrates.

Dabbing

The most popular way to consume cannabis concentrates is by vaporizing the concentrate using a "dab rig." This method consists of heating a "nail" (made from either glass, ceramic, or titanium) and then applying the concentrate directly onto the hot surface, instantly turning it into a vapor for consumption.

Dab tools

The most popular way to consume cannabis concentrates is by vaporizing

the concentrate using a “dab rig.

Vaporizers

Vaping is the most discreet and portable option for consuming cannabis concentrates. The most common form of vaping is a pre-filled cartridge that attaches to a battery. The cartridge contains a heating element that comes in contact with the battery and heats the concentrate when activated. This battery-and-cartridge combination is collectively referred to as a vape pen. Standard vape pens are operated by pressing a button or, in the case of a buttonless pen, simply taking a drag from the mouthpiece of the cartridge. These pre-filled cartridges aren't refillable and are to be discarded after the concentrate runs out, but the battery can be saved and reused many times. Vaping is the most discreet and portable option for consuming cannabis concentrates.

Handheld Vaporizer

If you want to know how to use cannabis oil in a more discreet and portable way, look into using a handheld vaporizer. With a vaporizer, you manually fill a chamber with any type of concentrate and attach the chamber to a battery. The chamber typically contains a heating coil that turns the concentrate into a vapor when the user presses a button. Unlike a dab rig, this method does not require any additional equipment, but still gives you the ability to pre-fill the chamber with any type of concentrate and use it on demand. With a vaporizer, you manually fill a chamber with any type of concentrate and attach the chamber to a battery. (Photo by: Gina Coleman/Weedmaps)

WHAT ARE THE MAIN EXTRACTION TYPES?

If you want to learn how to make THC oil or other forms of cannabis concentrate, there are two ways of doing so: physically separating the trichome from the plant or using liquid solvents.

Physical Separation

During the physical separation process, trichome glands are removed from the cannabis starting material using a physical action, like shaking or pressing. Think of the trichome glands as fruit on a citrus tree: physical separation is similar to the shaking of a citrus tree to remove the fruit. When creating dry sift, for example, cannabis is shaken through a series of screens in specific sizes to ensure only the trichome heads make it through to the final product. Rosin is created using a targeted combination of heat and pressure to squeeze the desired compounds out of the plant. The key concept of physical separation is that a direct physical action results in the expression of trichomes.

Liquid Solvent Extraction

All solvent extractions use the same basic workflow: a liquid solvent is used to separate the active compounds from the trichome gland to yield a solution. This solution must be further refined until nothing but the desired compounds remain.

LPG Closed Loop System

Due to the volatility of these solvents, technicians typically use closed-loop extraction systems, which allow them to safely control elements like temperature and pressure in order to achieve the optimal result. Due to the volatility of these solvents, technicians typically use closed-loop extraction systems, which allow them to safely control elements like temperature and pressure in order to achieve the optimal result. Depending on the solvent selected, the resulting extract is put into a vacuum oven to ensure complete solvent removal prior to consumption.

HOW DO YOU MAKE DIFFERENT TEXTURES?

Different textures are the result of deliberate steps taken before or after the initial extraction process.

Shatter

Shatter is one of the most versatile textures. In fact, many other textures, such as budder and crumble, start off as shatter. Shatter is known for its resemblance to brittle glass, which shatters on contact, but can also have a “snap and pull” consistency that gives it elastic-like properties. Shatter should be vaporized using a dab rig, and can be created using a variety of solvent extraction methods, the most popular of which include BHO, PHO, EHO, and CO2. Shatter is known for its resemblance to brittle glass, which shatters on contact, but can also have a “snap and pull” consistency that gives it elastic-like properties.

Badder, Budder

The textures badder and budder are the result of agitating terpene-rich shatter into a more creamy consistency. To achieve this frosting-like texture, technicians whip the shatter under low and even temperatures to introduce and redistribute air molecules. The volume of these air molecules determinesthe density of the resulting texture.

Crumble

Crumble is shatter that has been whipped, like badder and budder, and then purged in a vacuum oven at low temperatures to “dry” the concentrate while retaining its cannabinoid and terpene content.

Crystalline

Crystalline is a transparent or semi-transparent cannabis concentrate that may resemble coarse decorative sparkling sugar or kosher salt. Multiple methods can be used to produce crystalline, but they all follow the same basic principles of crystallization. An example of crystallization is making rock candy. Rock candy is a flavored confection that’s produced when sugar (a chemical solid) is slowly added to boiling water (a liquid). The resulting solution cools a bit, then flavor and color is added. A prepared

stick is lowered into the solution. Over time, crystals form and grow on the prepared stick, eventually yielding the desired product. Crystallization is a process where a chemical solid is mixed with a liquid to create an initial solution. Any impurities are removed from the initial solution, and the extract is then mixed with another solvent under a different set of conditions to start the formation of pure crystals.

Distillate

Distillates are made by exposing a winterized and decarboxylated extract to heat and vacuum, which promotes the separation of cannabinoids based on their different boiling points.

HOW ARE CONCENTRATES MADE?

Concentrates are typically made from cannabis by using two methods: solvent and solventless. The former can be further divided into two groups: butane and carbon dioxide. Regardless of what solvent was used, all concentrates will need to go through a process called purging to remove the chemicals before you can consume it. On the flip side, solventless concentrates use heat, pressure, and filtration to extract the cannabinoids and terpenes from the plant. Solventless extraction takes more time and effort, but some people consider it a more natural and artisanal method. That said, one method isn't necessarily better than the other if you're buying a legal product, they're all safe to consume.

WHAT ARE THE DIFFERENT CONCENTRATE VARIETIES?

Now that you have an idea of how concentrates are made, let's explain all of the different varieties. They have names like shatter, budder, and crumble to name a few. The difference comes down to how they're processed after they're extracted.

Hash

You're probably familiar with hash or hashish: its centuries old, fragrant, and potent with a high THC factor. Hash is made using a solventless technique, usually via ice water. The extract is usually pressed into a brick or a ball before consumption.

Shatter

This type of concentrate is translucent, glasslike, and fragile hence the name. It's made by pouring raw extract onto a thin slab and leaving the mix undisturbed during the purging process.

Sauce

Whereas shatter is hard, sauce is gooey, with a liquid-y, applesauce-like texture. Another difference between the two is that sauce is left to age. A natural separation will occur between the major cannabinoids and the terpene-rich portion of the extract. The latter is mixed back into the sauce for increased flavor, a powerful aroma, and greater potency.

Budder

Extract that's been whipped during processing becomes wax. This wax then gets further aerated and you wind up with a consistency similar to butter, hence the name budder. You'll also find this product labeled as badder, frosting, icing, and similarly creamy sounding names.

Crumble

If wax doesn't get whipped and it's dried during the purging process, the concentrate turns into the consistency of sand, hence the name crumble.

Diamonds

Much like its name, diamonds are one of the more expensive extracts due to its time consuming method of creation. After the extract is purged, it's left to sit in a cool, dark place for a few weeks. The mix separates and you wind up with crystals that are pure THC, the precursor to THC, and a liquid that's full of terpenes. These crystals are extremely potent and prized by cannabis connoisseurs.

Live Resin

Live resin is extracted from fresh, flash-frozen flower. It retains a high volume of terpenes so you get the original flavor and aroma of the plant which is usually lost during other extraction processes.

Rosin

Rosin uses heat and pressure for filtration, which you can DIY with flower, a hair straightener, and some parchment paper. It can also be made from pressing hash.

Sap

When rosin gets put in a jar and left in the oven to decarboxylate (the process which converts non-psychoactive THCa to psychoactive THC), it becomes sap, a sticky concentrate.

HOW DO I ENJOY CONCENTRATES?

Now that you know what concentrates are, you're probably wondering how to consume them. Chances are you've already done so if you've tried a topical, ate an edible, or inhaled a vape. But if you're curious about trying a more potent method, you'll want to consider dabbing. This consumption method involves using a dab rig, which looks similar to a bong. Instead of packing flower into the bowl, you take a small amount of your concentrate and put it on a small surface that's normally called a "nail" or "banger". It's shaped like a bucket and can withstand high temperatures. Then you heat it and inhale the vapor for an immediate onset of intense effects.

TYPES OF CANNABIS CONCENTRATES

The world is your oyster when it comes to cannabis concentrates and each version has its own unique qualities and level of potency. To break down the different types of each concentrate texture, we'll pull them into two main categories: solvent-based and solventless cannabis concentrates.

Just like there are various types of marijuana, there are also various types of concentrates. This ranges from the specific strain used to make the concentrate, the form that the concentrate is in, and like mentioned above, how it was made. When visiting a dispensary, talk to your budtenders about what type of effect you are seeking so they can get you the perfect, high quality strain to match your desired outcome. Here we are some of the most popular forms of concentrates.

Shatter

Shatter gets its name for its glass-like consistency since it often shatters into little pieces when broken apart. Being known as one of the purest forms of concentrated marijuana, shatter is generally clear or amber in color. It is also smooth, solid, and maybe a little sticky and is made into thin sheets much like hard candy. This type of concentrate is made using BHO extraction, meaning butane is the main extraction solvent. It also goes through an additional filtration process to really ensure it's a pure and potent product. If you're looking for a hard-hitting high, shatter is likely the perfect concentrate for you.

Shatter is a murky and sometimes amber-colored concentrate made through BHO hydrocarbon extraction that, you guessed it, looks a lot like glass and can be "shattered" into several pieces. It's a sticky, hard candy-like substance that many experts believe this is the purest form of cannabis concentrates. Additionally, shatter is typically pushed through another filtration process to maintain its very high potency.

Wax

This concentrate, unlike shatter, is waxy in nature. The consistency is much like candle wax and certain kinds need to be handled with a dabbing

tool because they can be extremely sticky. Wax is normally yellowish in color and can be smoked out of either a rig or vaporizer. There are slight variations of wax concentrates ranging from those that are less sticky and crumblier to wax that is more honey-like in texture. This variation in the consistency has to do with the heat and moisture levels used during the extraction process. Goopy waxes are made from moisture-rich oils and are referred to as budder. Brittle waxes are often called honeycomb or crumble. No matter what type of wax you choose, you'll be satisfied with the results. Even though this concentrate is similar to shatter, Wax is a much softer, gooier texture that is very sticky to the touch. This typically yellow and gold texture concentrate often requires a dabbing tool due to its stickiness and can be used in vape or rig.

Rosin

Rosin is a little different from the above-mentioned extracts because it's made without the use of a solvent like butane. Instead, rosin is made with just heat and pressure being applied to the marijuana buds, kief, or trim to remove the plant resin. You can even make rosin at home with parchment paper and a hair straightener, however higher-grade rosin is made with a hydraulic press. The result is a concentrate that is golden, sappy, and oil-like. Because of the lack-of solvents needed, rosin also contains many of the aromas and terpenes present in the plant itself making it a favorite choice among terpene loving users.

Oil

Concentrates produced with CO2 instead of butane are referred to as oils. This is due to their runny and thick consistency. Cannabis oils are commonly found in vape pen cartridges or in syringes and they have a unique taste that differs from concentrates containing BHO like wax and shatter. This is because the process of extraction by CO2 saves more terpenes since it doesn't require as high of a temperature. Oil is the most common concentrate to find in the strictly CBD variety and is also commonly used to make edibles.

Hash

Before there were complicated extraction processes, there was hash. Hash is a form of concentrate that has been around for a long time and can be made in a variety of ways. A common way of making hash is simply compressing kief together into what looks like small greenish disks or pucks. Other forms of hash are made with ice water and are sifted through screens to collect the concentrated cannabis extract. All types of hash are more potent than traditional cannabis flower and are often either smoked

alone or are mixed in with regular bud.

SOLVENT-BASED CANNABIS CONCENTRATES

Solvent-based cannabis concentrates products. Again, these types of concentrates are more frequently extracted in large quantities and require a whole lot of flower to be converted into a substantial amount of these consistencies. Let's break down the solvent-based cannabis concentrates:

CO2 OIL

Oil concentrates are thick and liquidy, and commonly produced with CO2. This extraction method is popular because you don't need as high of a temperature to extract the oil. The process also helps retain more terpenes, which as we know, helps keep the pure flavor and aroma. Oil concentrates are sometimes referred to as CO2 oil and are most frequently used in vape cartridges and disposable vapes.

BUTANE HASH OIL (BHO) HYDROCARBON EXTRACTS

Butane hash oil (BHO), also known as hydrocarbon extracts, are cannabis concentrates that as you might've guessed, use butane and propane as a pressurized chemical solvent. These solvents allow a closed-loop system, which ultimately removes the essential oils from the cannabis plant. Hydrocarbon extracts are popular among extraction experts because it allows them to better maintain the original cannabinoids and terpenes compared to other hasher methods that ruin the plant's chemical makeup.

BHO extracts range in potency, but the most common product form is for dabbing. This process allows the BHO to be vaporized, which is known as dab oils, compared to other forms of cannabis used for dabbing.

DISTILLATE OIL

Distillate oil is frequently referred to as a crude extract, which essentially means that a high level of terpenes is maintained through the process. This oil can continue to be refined to contain only the THC or CBD compounds, in which this pure form often produces little to no flavor. Distillates are frequently used in vape pens and cartridges where terpenes are added into the oil to give the flavors and effects common in cannabis. But pure forms of this oil are prevalent in edibles and various topical products.

This process gives way to inventive edibles like cannabis ranch dressing mix and taco seasoning, and several different baking with cannabis recipes, which allows the effects of cannabis to stay without the strong taste.

CRUMBLE

Some waxes can be made into a drier texture with the help from increasing heat and moisture levels during the extraction, In turn, this creates crumble or “honeycomb,” which gets its name from resembling an actual beehive. To make crumble, there are several post-extraction processes needed to collect the runnier oil substance and help it regain its honeycomb structure.

LIVE RESIN

Live resin is a cannabis concentrate that uses frozen plant material to maintain its cannabinoid profile. This extraction process allows the terpenes to be preserved very similarly to a live plant. The matter typically appears shiny or glossy and ranges between golden and amber colors.

Most importantly, live resin is popular because of its strong aromas and flavors from the high level of preserved terpenes, which are usually lowered in other extraction processes.

HOW POTENT IS THIS FORM OF MARIJUANA?

Marijuana concentrates contain extraordinarily high THC levels ranging from 40 to 80 percent THC amounts. This form of marijuana can be up to four times stronger in THC content than high grade or top shelf marijuana, which normally measures around 20 percent THC levels.

HOW IS IT ABUSED?

One form of abuse occurs orally by infusing marijuana concentrates in various food or drink products. Smoking remains the most popular form of ingestion by use of water or oil pipes.

Many abusers of marijuana concentrates also prefer using an e-cigarette/vaporizer because it is smokeless, odorless and easy to hide. The user takes a “dab” of the concentrate, then heats the substance using the e-cigarette/vaporizer, producing vapors that ensure an instant high.

Using an e-cigarette/vaporizer to ingest marijuana concentrates is commonly referred to as “dabbing” or “vaping.”

WHAT ARE THE EFFECTS OF USING MARIJUANA CONCENTRATES?

Being a highly concentrated form of marijuana, the effects upon the user may be more psychologically and physically intense than plant marijuana use. To date, long term effects of marijuana concentrate use are not yet fully known; but, we do know the effects of plant marijuana use. These effects include paranoia, anxiety, panic attacks, and hallucinations. Additionally, the use of plant marijuana increases one's heart rate and blood pressure. Plant marijuana users may also experience withdrawal and addiction problems.

HOW ARE CONCENTRATES EXTRACTED FROM CANNABIS?

Cannabis concentrates are extracted in various ways, but the two primary methods include solvent-based and solventless extractions. While this might sound a bit complicated, it's an important process that will make more sense as we go. For starters, the way you extract cannabis determines what type of concentrate products you can produce. So let's break this down to make it more digestible:

Solvent-based extractions

solvent-based cannabis concentrate oil example. Solvent-based extractions are a lot like they sound—a chemical compound such as butane, carbon dioxide, ethanol or propane is used to dissolve the plant and carefully strip out the cannabinoids and terpenes. Think of it like the science experiment in high school you might've slept through when you used two different chemicals to come up with one solution. Or simply think of a common solvent like nail polish remover—you want to remove the paint without damaging your nail. Additionally, solvent-based extractions are commonly used by cultivation centers where cannabis concentrates are extracted in mass and then go through a purging process. This is another chemical process that evaporates the leftover solvents. Solventless extractions

On the other hand, there are solventless extractions that do not use chemicals like propane or butane, but instead, physical methods that apply pressure, filtration, or temperature to the plant material in order to extract a concentrate. These solventless extraction tools are more geared toward at-home consumers. Solventless extractions also produce different types of cannabis concentrate products, which are more popular in the artisanal and hand-crafted space because of the natural extraction process. There's certainly a craft to the process, but just like solvent methods, the point is to

strip out the cannabinoids and terpenes without damaging them.

HOW ARE CONCENTRATES MADE?

Marijuana concentrates can be made in a commercial environment with modern equipment or prepared in a home setting. They are produced in various ways, including:

- Dry processing (kief, finger hash)

- Dry ice processing

- Water-based processing (bubble hash)

- Combining pressure with heat

- Using nonflammable carbon dioxide solvents

- Using flammable solvents, including butane (lighter fluid), propane, ether or alcohol¹

Using flammable solvents is popular because the products have high THC levels, users report longer-lasting effects, and it is a relatively inexpensive and efficient production method. Butane is a commonly used solvent, producing the potent marijuana concentrate butane hash oil (BHO), also known as amber, dab, glass, honey, shatter, or wax.

WHAT DOES THE FINAL PRODUCT LOOK LIKE?

The products resulting from these methods may be:

- A gooey liquid wax (hash oil or honey oil)

- A soft solid with a texture like lip balm (wax or budder)

- A hard, amber-colored solid (shatter)

Hash oil and waxes can be consumed using vape pens. Solids can also be placed on a heated platform usually made of titanium, quartz, or ceramic, where they are vaporized by high heat and inhaled through a dabbing tool, often called a rig.

WHAT'S THE DIFFERENCE BETWEEN CONCENTRATES, EXTRACTS, AND DABS?

The terms used to describe these products vary. Concentrates is a broad term referring to all products that have been extracted from the plant. Although extracts and concentrates are often used interchangeably, some people define extracts as products manufactured using solvents, but not those pulled from the plant with non-solvent methods. Dabs may refer to products made exclusively from butane hash oil; however, the term is sometimes used colloquially for concentrates extracted in other ways. There are also post-production methods that lead to further variations in products and terms.

WHAT ARE THE HEALTH EFFECTS OF CONCENTRATES?

There are adverse effects associated with marijuana use in any form, though additional research is needed to understand how the use of concentrate may differ from smoking dried marijuana buds. Marijuana concentrates have very high levels of THC. Solvent-based products tend to be especially potent, with THC levels documented at an average of about 54-69% and reported to exceed 80%, while non-solvent based extraction methods produce average THC levels between 39-60%. In comparison, the THC content in marijuana plant material, which is often used in marijuana cigarettes, is lower—with samples seized by the U.S. Drug Enforcement Agency averaging just over 15%. Not only do concentrates have high levels of THC, but dabbers inhale the entire amount all at once—in a single breath. As a result, concentrates can deliver extremely large amounts of THC to the body quickly. The risks of physical dependence and addiction increase with exposure to high concentrations of THC, and higher doses of THC are more likely to produce anxiety, agitation, paranoia, and psychosis. Additional research is needed to understand how the use of concentrate affects these risks.

In addition, contaminants in concentrate products may be cause for concern. One study noted that 80% of tested concentrate samples were contaminated in some form, not only with pesticides (which is also a concern for dried bud), but also with residual solvents that were not fully purged in the manufacturing process. Users of BHO, for example, likely inhale some butane and other impurities along with the vaporized THC. It is important to note that direct inhalation of concentrated butane among recreational inhalant users carries multiple risks, including reported deaths. However, it is unclear what negative health outcomes result from the inhalation of residual butane, other solvents, or leftover contaminants during the dabbing process.

IS IT DANGEROUS TO MAKE SOLVENT-BASED CONCENTRATES?

When solvents are used to produce concentrates, the preparation process itself can be dangerous. A number of people using butane to make extracts at home have caused fires and explosions and have been seriously burned. A study conducted in 2015 looking at implications from marijuana legalization in Colorado reported that in a 2-year period the University of Colorado burn center saw a substantial increase in the number of flash burns that occurred during amateur THC extraction using butane, some involving more than 70% of body surface area and most requiring skin grafting. It is against federal law to manufacture BHO, and even in some states where adult use of marijuana is legal, like Colorado and California, it is illegal to make hash oil using flammable liquids. In Colorado, state officials recommend alternate methods using nonflammable dry ice (CO₂), ice water, or purchasing the product from a licensed marijuana retail store. Most licensed, commercial production facilities use a safer extraction system that prevents solvents from being wasted or exposed to the open air where they could inadvertently be ignited, similar to decades-old systems used in the production of many commercial products.

POINTS TO REMEMBER

Cannabis plants are covered by microscopic, mushroom-shaped, hair-like compounds called trichomes which surround the budding marijuana flower and produce the plant's cannabinoids.

Trichomes can be collected and made into concentrates, including extracts and dabs.

Concentrates can contain very high levels of THC, the psychotropic ingredient in marijuana.

Concentrates can be vaporized and inhaled using a vape pen or by dabbing.

Concentrates can be made in commercial settings or in a home through several methods, including dry ice- and water-based processing and the use of solvents.

Using flammable solvents, such as butane, propane, ether or alcohol, is popular because it produces high THC levels, longer-lasting effects, and it's relatively inexpensive.

Using butane as a solvent produces the potent marijuana concentrate butane hash oil (BHO), also known as amber, dab, glass, honey, shatter, or wax.

Exposure to high levels of THC increases the risks of physical dependence and addiction. Higher doses of THC are more likely to produce anxiety, agitation, paranoia, and psychosis.

Contamination with pesticides and residual solvents that weren't fully removed during production is a concern. People who use BHO likely inhale some butane and other impurities along with the vaporized THC.

CONCLUSION

Cannabis plants are covered by microscopic, mushroom-shaped, hair-like compounds called trichomes. These outgrowths surround the budding marijuana flower and produce the plant's cannabinoids. Different varieties of trichomes can be collected. The resulting products collectively called cannabis concentrates can contain very high levels of tetrahydrocannabinol, commonly referred to as THC, the psychotropic ingredient in marijuana. These THC-rich marijuana products may be vaporized and inhaled using a vape pen or through a process called dabbing.

All of these various types of cannabis concentrates are excellent choices to give you a clean high. Whether you choose to go with shatter, oil, or one of the many other available concentrates, you won't be disappointed with the effects. When purchasing a concentrate, use the help of a budtender to point you in the right direction. And if you're really feeling adventurous, give all the types a try.