What is Water Extraction and How to make Hash or Oil

-- The Trident Unit

Industry Background

With the recent cannabis legalization in Canada and acceptance from governments on medical cannabis throughout the world, an increasing number of people have turned their attention towards the cannabis industry. Traditional forms of cannabis usage including smoking dry flowers, consuming tinctures, and inhaling concentrate in a vape pen or a vaporizer, have been joined by a variety of products brought on to the market to meet the higher demands from consumers and gain more opportunities and business for companies. In other words, the market is rapidly developing new ways to consume cannabis.

Different concentrates attract a lot of attention from users, as they can be considered a healthier way of consuming cannabis when compared to traditional ways. They also provide a faster-acting and longer-lasting after-effect. Other than the traditional concentrates like BHO, shatter, and hash, there are also newer options available, such as live resin, live rosin, diamond, bubble hash among others.

Introduction to Bubble Hash

Bubble hash (also known as water hash), is a new type of concentrate, which has gained a lot of popularity in recent years. It has gotten plenty of good reviews from consumers especially for the six-stared products. This ranking is the derived from a grading system in the industry to rank the end products, from one to six, with the best as six stars. It is said to be one of the best concentrate products available on the market.

Bubble hash gets the name from the way it bubbles when heat is applied to it. The traditional way of producing bubble hash is to mix the cannabis flower with ice water in vinyl bags, which are called bubble bags, and apply agitation to the mixture. The material freezes and then the resin glands (trichomes) break off from the flower. These resin glands contain the effective cannabinoids compounds like tetrahydrocannabinol (THC) and cannabidiol (CBD) in a cannabis plant. The flowers are the part containing the most abundant number of cannabinoids found within the plant. The resin gland enriched water will go through a series of different screen size bubble bags to remove almost all the plant material, and the only thing left in the finest bubble bag is the pure and useful trichomes, which becomes bubble hash after removing the moisture.

The color of bubble hash varies from light blonde to dark brown depending on the bubble bags' screen sizes, material quality, etc. The first few passes (normally four or five different screen-sized bags would be applied) of bigger screen sized material is normally darker in color because of the plant material left in it. The smaller the final screen size, the less plant material will pass through, which provides a better and higher starred product. The ultra-refined material tends to largely bubble away when smoked or dabbed, leaving little or no plant material behind. This is also called "full melt", which is considered the highest quality product.

Comparing water extraction starting with the fresh frozen material, to dry mechanical separation producing kief, it is also true that bubble hash can preserve more terpenes which gives a better flavor to the product itself, as the drying and curing process would result in the loss of most of the terpenes.

Current methods of making bubble hash are able to produce good quality products; however, there are limitations including poor scalability and high labor requirements. The biggest bubble bag available on the

market is around 121L (32 gallons). This requires operators to manually remove every individual bag and collect material from it, reducing the overall efficiency in production and potentially resulting in inefficient product usage.

Maratek's Trident System

Trident works to separate the trichome from the cannabis plants in a 316 stainless steel process tank. This tank provides control of rotation speed, rotation duration, torque settings, agitation speed, agitation time and filter sizes. Filtration follows automatically after the agitation stage, with different sized screens built into the system acting in a similar manner to the bubble bags. A closed-loop water chiller is connected to the unit, which maintains a temperature between 0.5°C to 1.5°C. This replaces the need for ice cubes during the agitation stage. All these features allow the system to provide a quality-consistent product, as well as an overall efficient process.

The Trident system is also designed for fully automated cycles with a control panel interface, and the ability to set all the related parameters in advance, for example, agitation speed, agitation time, and rotation direction.

As an optional feature, a reactor that can dissolve and homogenize the bubble hash product into a carrier oil can be added. The reactor is also able to decarboxylate the product if needed. This produces a high-grade, solvent-free, ready-to-sell product with little manual interruptions.

About Maratek

Maratek is a Canadian based, award-winning, industry leader in professionally engineered solvent recycling and cannabis & hemp extraction technologies, which has proudly served industrial manufacturers globally for more than 50 years. Maratek manufactures environmentally conscious products that recycle waste for reuse from printing, coatings, automotive, aerospace, paint, cannabis, and many other related types of manufacturers to help them stay competitive in the marketplace by cutting costs and saving money. In 2011, Maratek acquired Omega Recycling Technologies, allowing the company to significantly expand its product offering. Maratek focuses its development efforts on reducing, reusing, and recycling solvents and other liquid wastes in a wide range of industries. Our company develops the latest technologies, utilizing our vast experience of supplying clients worldwide to provide the best return on investment possible.

Now, the company is using that experience to take the cannabis world by storm. Maratek's strengths lie in the ethanol extraction and related processes like winterization and looks to limit solvent waste and increase efficiency. Also, Maratek has developed in the direction of solventless extraction, like water extraction, in recent years.

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