

## Labscape Containment Systems

### THE CANNABIS CHALLENGE

#### New Opportunities for Laboratory System Providers

*As the legal cannabis market begins to mature, a host of new opportunities are emerging for suppliers of Exhaust Containment Systems that make THC extraction processes safe, efficient and cost-effective.*

By any measure, the worldwide market for legal cannabis production, processing—and the related business opportunities associated with the industry—is large and growing at an extremely rapid pace. Cannabis has always been big business, of course. But until the use of marijuana for medicinal purposes began to gather momentum, the market for weed, hash and associated extracts was firmly ensconced in the black market.

The legal history of cannabis in the United States began in 1937 with the passing of the Marijuana Tax Act, which effectively prohibited all use of cannabis on a federal level. Very little changed for almost 40 years, until the first chink in the armor appeared when Oregon decriminalized cannabis on a state level in 1973. Within a few years, California, Colorado, Mississippi, New York, Nebraska, North Carolina and Ohio followed suit, and certain cities and counties—particularly in California—adopted laws to further decriminalize the drug.

The floodgates really began to open in 1996 when California passed Proposition 215, legalizing the use of cannabis for medicinal purposes. That same year, the first legal marijuana dispensary—the Marin Alliance for Medical Marijuana—opened its doors for business. Since then, a total of 25 states have passed legislation making medical marijuana legal. And in 2012, Washington and Colorado legalized recreational marijuana for adults 21 years of age or older, legislation that was soon to be followed by Alaska, Oregon and the District of Columbia.

### A BUDDING MARKET

As legal barriers have eroded and the stigma long associated with marijuana has receded into the background, the U.S. cannabis industry has progressed from a peripheral curiosity to become a booming marketplace. A *Fortune Magazine* article that appeared in February 2016 cited a recent report by a leading marijuana industry investment and research firm that claimed that legal cannabis sales grew by 17% to \$5.4 billion in 2015.

The same report forecasted that the market will grow by a whopping 25% this year to reach \$6.7 billion in U.S. sales. And in its latest prognostication, ArcView Market Research predicts a compounded annual growth rate (CAGR) of nearly 30% over the next few years, culminating in a legal cannabis market that will reach \$21.8 billion in annual sales by 2020.

Equally significant, until recently the growth of the industry was hampered by federal regulations that made it impossible for cannabis cultivators to do business by credit, leaving the industry tied to a cash business where capital expenditures and significant investment in plant, equipment, R&D and expansion activities was limited. But those obstacles have largely disappeared, opening the door for dramatic market expansion moving forward.

Cannabis has always been big business. And now that it's legal, a wealth of new opportunities are emerging for all sorts of businesses that are in position to help fuel the growth of the industry. By any measure, the sky's the limit.

## **OF EXTRACTION, EDIBLES AND EXPLOSIVE CONSEQUENCES**

While the bulk of the cannabis market will remain rooted in the growing of flowers and buds that will be ultimately smoked by consumers, one of the key segments of the market relates to cannabis “extracts”—not the actual bud, but the oils and waxes that can be obtained by extracting THC (tetrahydrocannabinol, the principal psychoactive constituent of cannabis) from the buds for use in other applications. These applications include edibles, topical ointments, capsules and other packaged products, as well as use in portable vaporizers.

Why the popularity of cannabis extracts? From a consumer perspective, extracts are more potent than cannabis buds, the taste is cleaner and more pleasant, and extracts eliminate the need to inhale smoke to achieve desired results. And from a supplier perspective, extracts weigh in at a higher price point than the flower does, enabling businesses to achieve higher sales per individual customer when compared to selling traditional buds.

At present, there are two principal methods for extracting THC from cannabis: CO<sub>2</sub> extraction and butane extraction. The former is an organic process that offers the greatest degree of control, due to the fact that the process is “tunable” in a way that allows growers to collect all the material through a segmented process. Perhaps more important, CO<sub>2</sub> extraction is generally considered much safer than its butane counterpart, due in large part to the fact that CO<sub>2</sub> is a non-flammable gas that's part of the earth's atmosphere.

Unfortunately, CO<sub>2</sub> extraction takes longer and is up to ten times more expensive when compared to butane extraction—which also tends to yield higher volumes and a “finer” grade of results. Given these cost, speed and volume advantages, butane extraction processes have emerged as the popular choice in the marketplace for extracting THC from cannabis to obtain what is known as butane hash oil (BHO).

But there’s one serious problem associated with butane: it’s much more flammable and volatile than CO<sub>2</sub>, marking it as a potentially dangerous process that can lead to disastrous consequences.

## **BHO: BURNING DOWN THE HOUSE**

Butane—in addition to propane and hexane—extraction has indeed proven its mettle as a highly efficient means of obtaining BHO cost-effectively and in volume. The basic process entails stripping the glands from a marijuana leaf using a butane solvent, after which the solvent is evaporated away from the glands, leaving a product that can be further refined to meet the needs of other applications.

The bad news is that butane is extremely volatile, and must be prepared and used in an area that is properly ventilated. Even the smallest infraction—such as turning on a light switch or generating static electricity by walking across a carpeted room—can spark a massive explosion that can lead to significant property damage and death to those engaged in the process.

This danger is exacerbated by the fact that the legal cannabis industry is still in its relative infancy, creating an environment where “mom and pop” businesses and rank amateurs find themselves setting up tents or home laboratories that simply aren’t up to snuff when it comes to taking the proper precautions necessary to avoid hash oil fires and explosions. Much in way that stills have traditionally sprung up to ferment alcohol, home cooks can easily be set up anywhere—and it doesn’t take very much for butane hanging in the air to ignite.

As a result, there’s been a relative epidemic of hash oil home lab fires in the past few years. In New England alone, there were no less than 10 suspected BHO fire incidents in 2015, a nine-fold increase over the previous year. One man died and another was seriously burned in an incident that occurred in Rhode Island, and a five-alarm fire in a clandestine lab swallowed a warehouse in the same state. Move on to Colorado—where even recreational marijuana use is now legal—and the problem is even more pervasive; in a single year, the state experienced a 167% increase in explosions that were tied to suspected labs.

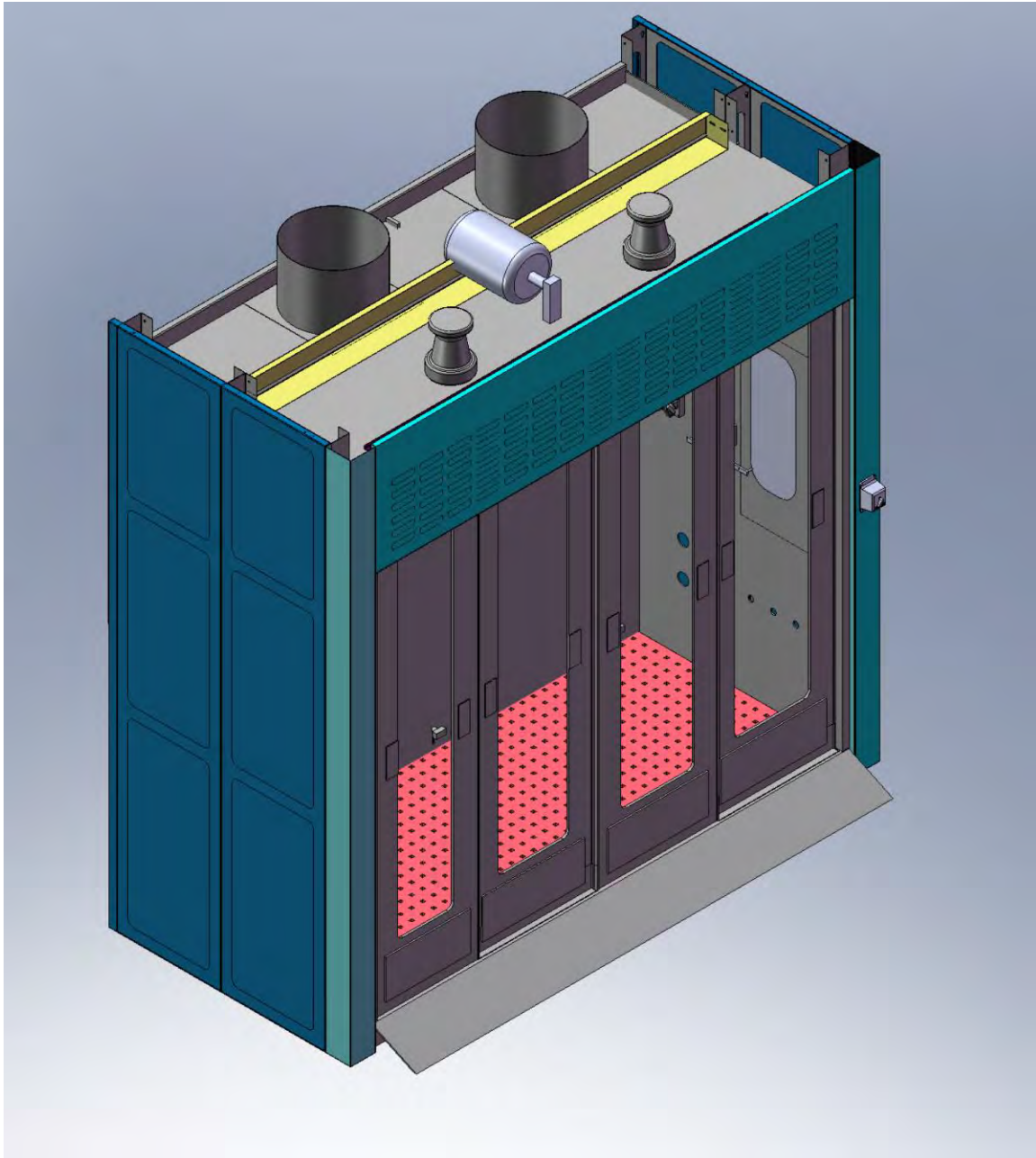
It's clear that the butane extraction process is struggling to overcome a bad—and somewhat well-deserved—reputation. And it's also clear that providers of sophisticated Exhaust Containment Systems have the opportunity to debunk this reputation by providing solutions that are clean, safe, efficient organized and consistent.

## LABSCAPE: CLEARING THE AIR

One of the providers in position to help advance the frontiers of butane-based THC extraction processes—and take advantage of a rapidly growing market—is Labscape. Based in New Jersey, we've established our company as a leading sole-source supplier of the industry's finest fume hoods, casework solutions and modular custom laminated cabinets designed for laboratory environments. To date, our customer base has essentially been rooted in academic institutions, research and development companies and medical settings.

But with laboratory work now moving into the forefront of BHO extraction processes, we're finding a wealth of opportunities to apply our technology to the cannabis industry. This discovery process began innocently enough in the past few years as the industry slowly began to achieve legitimacy; in response to Labscape's leadership position and reputation, growers and refiners began to seek us out to procure the proper lab equipment to ensure both safety and compliance with state regulations.

In particular, our fume hood solutions have proved ideal as Exhaust Containment Systems tailored for the needs of the cannabis industry. Below is an isometric photo of a walk-in Exhaust Containment System for a prototypical cannabis lab:



The purpose of these systems is to ventilate dust, debris, fumes and other contaminants away from users and out of the laboratory. Since there are many different types of fume hoods available, it's important to select the right hood for the right application. Equally important, these systems must be properly customized, installed and maintained to ensure ongoing safety and compliance.

Pictured below is one of Labscape's many custom walk-in Exhaust Containment Systems used for lab testing in the cannabis industry.



## THE LABSCAPE ADVANTAGE

Why Labscape? Aside from our sterling reputation gained from years of serving laboratory environments, several other competitive advantages emerge.

To begin with, Labscape has achieved somewhat of a first mover advantage in the cannabis industry. Alerted to the possibilities through inquiring customers, we've attended the last several Cannabis World Congress & Business Expos, we've become more educated and focused on the market needs at hand, and we've actively begun selling our solutions into the marketplace. In addition, we're moving aggressively and enthusiastically into a market space that many of our larger competitors have thus far avoided, due to the ongoing stigma and potential repercussions that arise by being associated with the cannabis industry.

But the Labscape advantage is rooted in much more than our focus and commitment to the emerging legal marijuana industry. Above all, we're a true "soup-to-nuts" solution provider in a market space where ongoing service and support is key.

Before shipping occurs, Labscape builds, tests and breaks down our custom-built systems at the manufacturing site. Unlike many of our competitors who only sell and ship their fume hoods and other related systems to customers, our certified and factory-trained installation team installs our Exhaust Containment Systems on the premises of our customers, fully testing the installed systems to ensure proper performance.

Labscape's installation and testing services—combined with ongoing maintenance service and warranties—are both appealing and reassuring to customers. And beyond the BHO extraction systems themselves, our ability to deliver ancillary solutions that provide everything required to create a top-notch laboratory environment make Labscape that much more attractive to customers as an ongoing business partner and solutions provider.

As the old saying goes, where there's smoke, there's fire. But the fires associated with butane-based THC extraction processes in the cannabis industry no longer need to be viewed as a daily threat to existence—and that's where Labscape can help.

FOR MORE INFORMATION REGARDING LABSCAPE'S EXHAUST CONTAINMENT SYSTEMS OPTIMIZED FOR THE CANNABIS INDUSTRY, PLEASE CALL **800.898.6649** OR EMAIL US AT [INFO@LABSCAPE.COM](mailto:INFO@LABSCAPE.COM).