

THE COMPLETE GUIDE TO  
**CANNABIS EXTRACTION  
COMPLIANCE**



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EXTRACTORS



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**Compliance in an extraction facility keeps your company legal and safe, while also ensuring your brand stays ahead of the competition.**

In today's modern, litigious world, corporations around the world and across industries are focusing on compliance. But conforming to rules, policies, and standards wasn't always a priority in this country, especially not in the realm of cannabis and its many offshoots.

As the legal cannabis movement surged, giving way to major profitability, compliance in the cannabis industry transformed. Instead of a passive, reactive approach to governing rules and regulations, compliance became a proactive mission that harnessed technology and data to monitor safety.



*Today, cannabis compliance doesn't just include traditional aspects of effective monitoring programs, it also incorporates new elements, such as social responsibility and societal benefits.*

# THE NEED FOR COMPLIANCE IN CANNABIS EXTRACTION

For any newly formed business, there's often a knee-jerk reaction to forgo additional expenditures during the launch of a brand. Sure, you need to spend money on functional equipment, a modest staff, and some strategic marketing, but saving cash is always an attractive prospect.



**Let's be clear**  
**Extraction**  
**compliance is**  
*not the place for*  
**penny pinching.**

Investing in the tools, equipment, and processes for compliance sets you up for success in the extraction industry. A fully compliant extraction company is one that keeps its employees safe, has good legal standing in the eyes of the state and federal government, and stays ahead of the growing cannabis competition.

This isn't merely our opinion. The cannabis extraction industry has been breaking out for a number of years. As such, compliance has grown into an industry need.

## Check out these incredible cannabis industry statistics and what they mean for compliance:

- **Pew Research Center** found that 91 percent of U.S. adults are on board with marijuana legalization, with 60 percent supporting medical and recreational and 31 percent supporting just medical.

*As acceptance of cannabis becomes more widespread, so will the need for companies to keep new crops of consumers safe.*

- **New Frontier Data** calculated the compound annual growth rate (CAGR) of the legal cannabis industry to be 11 percent between 2020 and 2030, ultimately putting the industry's worth at more than \$57 billion by 2030.

*Those impressive profits will surely lead to more scrutiny from regulatory entities.*

- **Vangst**, a cannabis industry jobs platform, filled more than 150,000 positions in the industry in 2021, with over 1,500 of those being senior-level. Additionally, Vangst surveyed cannabis companies and found the majority of employees (34.4 percent) have less than a year of experience in cannabis. On the other hand, over 30.6 percent have more than five years of experience in the industry.

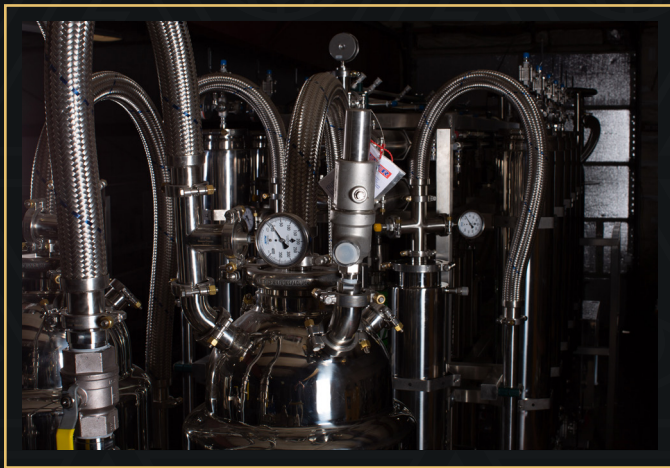
*With so many fresh new faces working in the cannabis industry, companies should put a premium on training and compliance.*

- According to **Leafly's jobs report**, 428,059 full-time equivalent jobs are now supported by legal cannabis as of January 2022. The industry created an average of 280 new jobs per day last year. The report found that cannabis jobs increased by 33 percent year over year, with 2021 being the fifth year in a row of growth exceeding 27 percent.

*With jobs on the rise, cannabis is clearly in line with workplace compliance requirements enforced by other industries.*



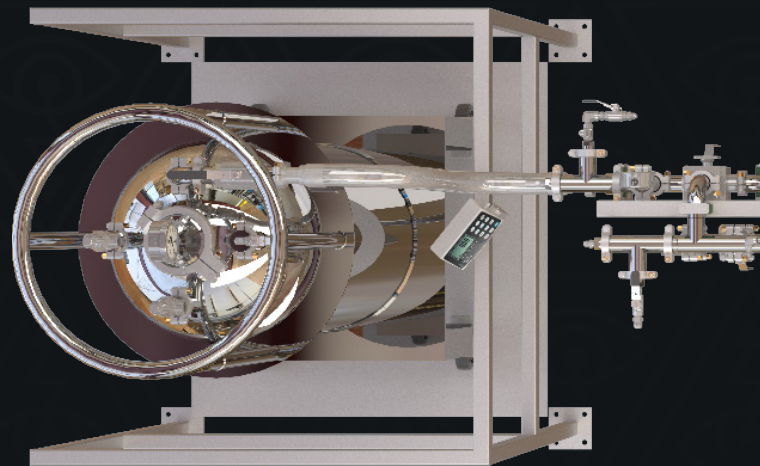
# STATS PAINT A CLEAR PICTURE OF THE FUTURE OF THE CANNABIS INDUSTRY.



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into a fully compliant  
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# HISTORY OF COMPLIANCE IN CANNABIS EXTRACTION

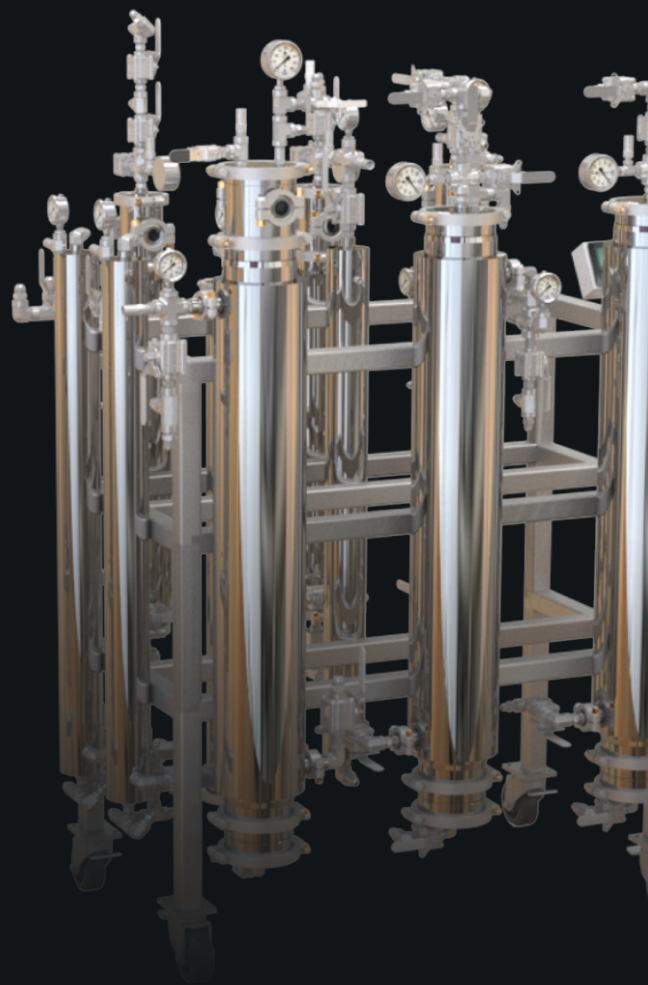
From fire and building codes to employee safety standards, a bevy of compliance laws have sprouted in the industry.

Even with massive growth, cannabis is still an emerging market. As such, the entire industry is essentially a startup with plenty of potential, but there are lots of holes to fill. Cannabis companies—focused on extraction and otherwise—must move rapidly to hire for a variety of roles, while never losing sight of ever-expanding compliance requirements.

**“We need chief financial officers, heads of product, marketing managers, marketing directors. We need facilities folks, who can keep the organization clean. Anything that you can think of that a company would need to operate,”**

Christina Odom, Senior Manager of Talent Acquisition at Vangst, a cannabis staffing firm, told HR Dive in July 2022.

In addition to operational needs, fledgling cannabis extraction companies also need a thorough understanding of compliance.



## THE EARLY DAYS OF COMPLIANCE

First described in the United States Pharmacopoeia in 1850, cannabis was widely utilized as a patent medicine during the 19th and early 20th centuries. That quickly changed with the passage of the 1937 Marihuana Tax Act, which restricted use and sale.

That's right. Cannabis went from widely utilized to arbitrarily banned in a flash. Then, after the country spent nearly 60 years with cannabis classified as a Class C felony, California became the first state to legalize medical cannabis. And in 2012, Washington and Colorado became the first states to legalize cannabis for recreational use.

*The legal whiplash cannabis has undergone over the last century should tell you everything you need to know about how complicated compliance is when it comes to extractions.*

## THESE THREE STATES

**California, Colorado, and Washington** were the first three states to cross the legalization finish line, and they set a stellar example of how to decipher newly constructed state compliance laws. **These three states boast sophisticated outlines of their cannabis laws, including guidelines that relate specifically to cannabis** extractions.

- California Fire and Building Codes for Extraction Facilities
- Colorado Fire and Building Codes for Extraction Facilities
- Washington Fire and Building Codes for Extraction Facilities

The safety guidelines for these three states set the standard for the industry at large. Today, extraction processes and facilities across the country must follow a detailed set of equipment codes, fire codes, sanitary standards, employee standards, and more.

**Work with an extraction equipment provider that's well-versed in compliance. Let's talk!**



## EXTRACTION FACILITY

# CODES & STANDARDS – PART 1

There are a lot of safety regulations involved with cannabis extraction equipment, and the simple fact that these regulations exist is reason enough to follow them to a tee. The following codes and standards relating to equipment are required by all businesses operating extraction equipment, whether they use hydrocarbons (butane and propane), ethanol, or CO2.

## SAFETY REGULATIONS

### ◇ ASME B31.3

- The American Society of Mechanical Engineers (ASME) B31.1 code specifies the design requirements of high-pressure pipes. Code [ASME B31.1](#) ensures your components can withstand the natural processes of THC extraction.

### ◇ ASME BPVC Sect. V111, Div. 1

- Used to calculate the thickness measurement of pressure vessels operating at pressures that exceed 15 psi (internal or external).

[ASME BPVC Sect. V111, Div. 1](#) also addresses connections and bends in pipes, as well as reinforcement.



## CE Marked

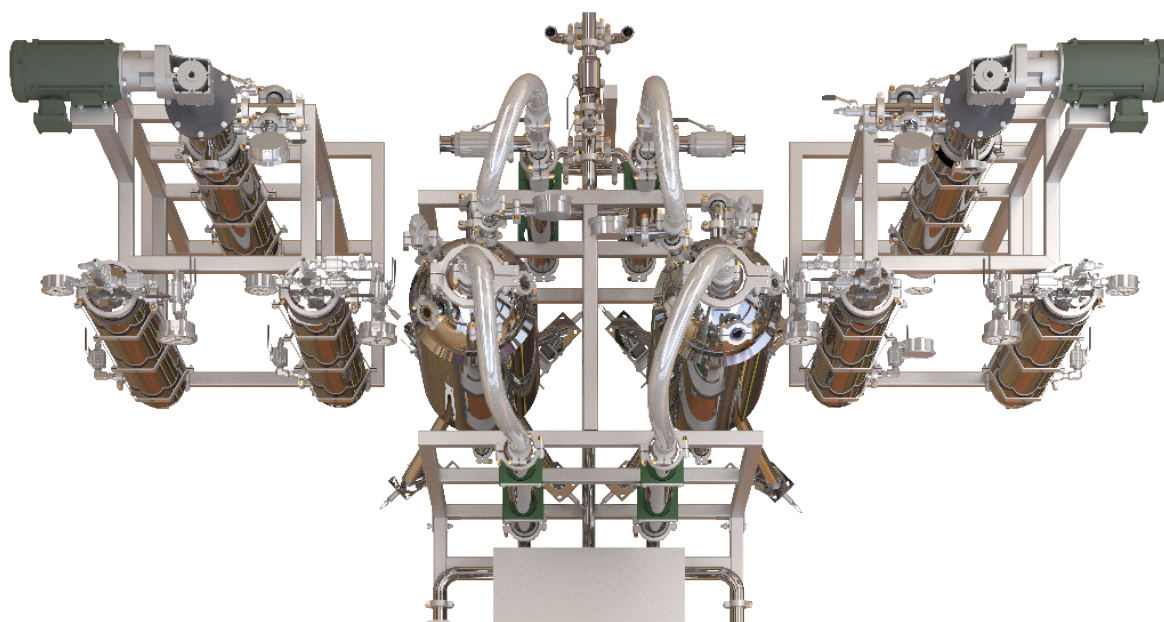
Mainly required by countries across Europe, a CE marking demonstrates that a product has met EU health, safety, and environmental requirements that all guarantee consumer safety. **These are the countries that require a CE marking**

**Greece - Norway - Germany - United Kingdom - Netherlands - France - Turkey  
- Malta - Finland - Switzerland - Luxembourg - Estonia - Sweden - Lithuania -  
Denmark - Spain - Liechtenstein - Czech Republic - Slovenia - Latvia - Cyprus  
- Slovakia - Italy - Croatia - Romania - Ireland - Bulgaria - Portugal - Iceland -  
Belgium - Poland - Hungary - Austria**

## PSI (Pressure Safety Inspectors)

[Pressure Safety Inspectors \(PSI\)](#) provides field verification, engineering peer reviews, and consulting services to the extraction industry. Peer reviews by a certified professional engineer—such as those at PSI—are a requirement of all primary extraction equipment.

**Extraction professionals must remember:  
Without the required stamps and certifications,  
inspectors can pull equipment from your lab!**



## EXTRACTION EQUIPMENT AND LAB CERTIFICATIONS

Adhering to extraction industry equipment and lab certifications puts you into the top tier of professional extractors. Not only does this leave little doubt that you take this industry seriously, it also shows you care deeply about worker safety, consumer concerns, and the quality of the products you are putting into the world.

Here are the most common extraction equipment and extraction lab certifications you should strive to achieve for your facility.

### Intertek Certified

Intertek is a company that provides certifications for manufacturers to ensure the quality and safety of products, processes, and systems. For plant oil extraction equipment, an [Intertek certification](#) establishes that any and all machinery is in strict accordance with the National Electrical Code in the U.S. and the Canadian Electrical Code in Canada, along with multiple other requirements. This includes fluid storage and transfer.

### UL Certified to ANSI/CAN/UL/ULC 1389

[ANSI/CAN/UL/ULC 1389](#), by Underwriters Laboratories (UL), is the recently published standard for safety in plant oil extraction equipment. It covers equipment for installation and use in both hazardous locations and non-hazardous (ordinary) locations. UL is one of the world's oldest safety certification companies, recently making a foray into plant oil equipment such as extractors, extraction booths, post-processing equipment, and more

### UL Listed Components

UL Listed refers to stand-alone products with a specific function, tested against UL's published and nationally recognized standards for safety for a specific category of equipment. A [UL Listed Components](#) certification validates that product and equipment components meet durability expectations and compliance requirements.



## EXTRACTION FACILITY

# CODES & STANDARDS – PART 2

Yes, the individual pieces of heavy-duty equipment must be certified and up to certain standards. But the extraction facility housing this equipment must also adhere to an array of standards. At times, regional officials have specific variants relating to building and fire codes, so be sure to check your local ordinances.

### NEC (National Electric Code)

National Electrical Code (NEC) is a set of regularly updated standards for the safe installation of electric wiring in the United States. The NEC provides guidelines for electrical installation in order to prevent fires and other electrical accidents. Electricians and contractors need to be aware of NEC where applicable to ensure that installations are safe, legal and up to code. The codes are a part of the National Fire Protection Association, a private trade association.

### IBC (International Building Code)

The [International Building Code](#) (IBC) applies to all buildings in the manufacturing sphere and beyond. Within the IBC, there are a broad array of other international codes—known as I-Codes—which cover everything from energy conservation to zoning ordinances.

### IFC (International Fire Code)

Another one of the I-Codes is the [International Fire Code](#) (IFC). This code regulates minimum fire safety requirements for new and existing buildings, facilities, storage, and process. The major drive of the IFC is fire prevention and protection, as well as general employee safety and the safe storage of any hazardous materials.

## **NFPA (National Fire Protection Association)**

A nonprofit organization, the National Fire Prevention Association (NFPA) generally seeks to eliminate economic loss, property damage, injury, and death due to fire-related incidents. Essentially, they are a codes and standards group that provides the information you need to do your job safely and without incident. In 2021, the NFPA Standards Council approved the development of NFPA 420, a new standard on fire prevention in cannabis growing and processing facilities.

**“With the rapid legalization of medical and/or recreational use of cannabis throughout the U.S. and the exponential growth of cannabis facilities around the globe, developing provisions that minimize fire and associated risks for facility staff and first responders—as well as nearby structures and occupants—is critical to safety,”**

- Kristin Bigda, Technical Lead of Building and Life Safety at NFPA.

**When operating an extraction facility, there are a handful of specific codes that you should know inside and out. Those NFPA sections include:**

- Section 1: [Fire Code](#)
- Section 30: [Flammable and Combustible Liquids Code](#)
- Section 58: [Liquefied Petroleum Gas Code](#)
- Section 70: [National Electrical Code](#)

## FIRE PROTECTION

When dealing with highly combustible solvents such as butane and propane, you can bet that local fire marshals will take special interest in your operation. Expect many on-site visits and be as prepared as possible.

### Fire marshals will want to see:

1. How much solvent you have.
2. How you are using the solvent.
3. How you are storing the solvent.
4. That you are using no more than the minimum, necessary amount of solvent.  
That you are properly disposing of biomass waste

### Seismic Codes

Specifically for extractors located in seismic regions—which absolutely includes California, Washington, and Colorado—[seismic codes](#) are intended to ensure that structures can adequately resist seismic forces during earthquakes. A provision of the IBC, seismic codes provide guidance on how facilities should be designed to limit risk from earthquakes.

### C1D1 (Class 1 Division 1) and C1D2 (Class 1 Division 2)

C1D1 and C1D2 are the labels given to any laboratory setting that's considered a hazardous area due to the risk of fire or injury. This hazard exists because of the use of flammable gas, liquids, or vapors. C1D1/C1D2 compliance refers to the safety standards for these areas as designated by the [National Fire Protection Association's Publication 70](#) and [Occupational Safety and Health Administration](#).



## OTHER CRUCIAL CHECKS AND BALANCES

### **EPR (Engineering Peer Review)**

Before launching an extraction operation, you should spring for an engineering peer review (EPR). EPR teams are composed of technical experts with significant practical experience relevant to the technology and requirements of a particular specialty—in this case, cannabis hydrocarbon extraction. This review is conducted by individuals independent from your company who provide a thorough, honest review of your tools, equipment, and processes.

### **MEP (Mechanical, Electrical and Plumbing)**

Generally considered the standard when it comes to construction certifications, [MEP \(Mechanical, Electrical and Plumbing\)](#) inspects, tests, and certifies all systems of a building's infrastructure. MEP certification begins at the initial construction process and continues through regular inspections, all to ensure the building operates safely and efficiently.

### **NRTL (Nationally Recognized Testing Laboratory)**

An OSHA program, the Nationally Recognized Testing Laboratory (NRTL) enables private sector organizations to perform certification for certain products to ensure that they meet the requirements of both the construction and general industry OSHA electrical standards. Each NRTL has a scope of test standards that they are recognized for, and each NRTL uses its own unique registered certification markings to designate a product as safe. For example CSA Group is recognized as an NRTL by OSHA.

### **ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers)**

The American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) is a professional association seeking to advance the design and construction of heating, ventilation, air conditioning, and refrigeration (HVAC&R) systems. With air flow, air exchanges, and the ventilation of solvents such integral safety measures in hydrocarbon extraction, ASHRAE is crucial to a facility's adherence to local codes in C1D1 Rooms.

**WORK WITH AN EXTRACTION  
EQUIPMENT MANUFACTURER  
THAT CAN HELP YOU BECOME  
FULLY COMPLIANT.**



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# EMPLOYEE STANDARDS

**Cannabis extraction could potentially involve a unique set of hazards that operators must contend with to keep everyone safe.**

Cannabis extraction is made possible by flammable and combustible liquids, as well as supercritical fluid solvents that are used under high pressure. These extraction elements could pose significant risks to extraction team members.

You can proactively increase worker safety with a complete **Hazard Communication Program** (HCP), presented by the **Occupational Safety and Health Administration** (OSHA). If you maintain a workplace facility that deals with hazardous chemicals, you're required by OSHA to implement an HCP. This implementation happens with six steps:

## **Step 1. Learn the Standard/Identify Responsible Staff**

- Obtain a copy of OSHA's Hazard Communication Standard.
- Become familiar with provisions.
- Make sure that someone has primary responsibility for coordinating implementation.
- Identify staff for particular activities.

## **Step 2. Prepare and Implement a Written Hazard Communication Program**

- Prepare a written plan to indicate how hazard communication will be addressed in your facility.
- Prepare a list or inventory of all hazardous chemicals in the workplace.



### Step 3. Ensure Containers are Labeled

- Keep labels on shipped containers.
- Label workplace containers where required.

### Step 4. Maintain Safety Data Sheets (SDS)

- Maintain SDS for each hazardous chemical in the workplace.
- Ensure that SDS are readily accessible to employees.

### Step 5. Inform and Train Employees

- Train employees on the hazardous chemicals in their work area before initial assignment and when new hazards are introduced.
- Include the requirements of the standard, such as hazards of chemicals, appropriate protective measures, and where and how to obtain additional information.

### Step 6. Evaluate and Reassess Your Program

- Review your HCP periodically to make sure that it is still working and meeting its objectives.
- Revise your program as appropriate to address new conditions in the workplace.

## HAZARD COMMUNICATION

Hazard communication, also known as HazCom, is a set of processes and procedures that employers and importers must implement in extraction facilities to effectively communicate hazards associated with chemicals during handling, shipping, and any form of exposure.

In order to ensure chemical safety in extraction facilities, information about the hazards of chemicals must be available and understandable to all team members taking part in the extraction process. **OSHA's Hazard Communication Standard (HCS) requires the development and dissemination the following info:**

- Chemical manufacturers and importers are required to evaluate the hazards of the chemicals they produce or import, and they must prepare labels and safety data sheets to convey the hazard information to their downstream customers.
- All employers with hazardous chemicals in their workplaces must have labels and safety data sheets for their exposed workers and train them to handle the chemicals appropriately.

## PERSONAL PROTECTIVE EQUIPMENT (PPE) FOR EXTRACTION FACILITIES

Utilizing personal protective equipment (PPE) that's well-fitted, cleaned, and properly maintained is a must during all stages of production. PPE significantly reduces the risk of exposure to numerous hazards, while also preventing serious injury.

### Proper PPE for extractors includes:

- **Gloves:** Should fit tightly and be oil and puncture-resistant. Disposable nitrile gloves are recommended.
- **Safety goggles:** Protect eyes from chemical splashes and flying debris. Varieties include direct vented goggles, indirect vented goggles, and non-vented goggles.
- **Respirator:** Half-face respirators that cover the mouth and nose can provide respiratory protection from oil and oil-based particles.
- **Lab coats:** Should be fire resistant, anti-static, and grounded, with plenty of room for storage. When handling liquid chemicals, latex or nitrile chemical aprons are recommended.



**Safety and compliance in the extraction lab directly relates to how your team operates and how they are protected.**

**Illuminated Extractors can guide you and your staff!**

# PRODUCTION STANDARDS

**A clean extraction method always leads to an end product that's pure and free of contaminants.**

Cleanliness and purity are two major deciding factors for cannabis extract customers. Whether it's edibles, shatter, or oil, consumers want their cannabis concentrates to be free of impurities with untainted THC levels, and they look for extraction companies that haven't experienced product recalls due to contaminants.

For extractors, producing a clean product is all about implementing a clean process. And that starts with your equipment. Even if you purchase top-shelf raw plant material, it can become contaminated in the lab if you use subpar machinery and ancillary components. The best way to avoid contamination is to ensure compliance throughout the lab. In this section, we'll cover two of the most critical compliance measuring sticks.

## **cGMP & GMP (Good Manufacturing Practices)**

Enforced by the Food and Drug Administration, Good Manufacturing Practices is the main regulatory standard for ensuring pharmaceutical quality. These standards also apply to cannabis extraction products and assure the proper design, monitoring, and control of manufacturing processes and facilities. The "c" in cGMP simply stands for "current," and it is an important notation in your certification, as standards are in a constant state of flux and you are required to stay current on all requirements.

cGMP regulations protect consumers by ensuring purity in all products. According to an official with the Delaware-based cannabinoid producer Noramco, complying with cGMPs also presents extraction businesses with new opportunities.



**“By complying with GMP, the business benefit would be international opportunities and getting you to a quality standard that makes sure you don’t have business risk later on, because of the high level of rigor applied to your manufacturing process, testing, packaging, stability of the product and distribution,”**

- Bill Grubb, Vice President of Global Business Development at Noramco.

## **ISO 9001**

ISO 9001 stands for International Standard for Organization, and it provides requirements for an organization’s quality management system (QMS). There are many different levels of ISO certification, but ISO 9001 is among the best-known standards. When an extraction facility has an **ISO 9001 certification**, it means the organization, its products, and services all meet quality standards.

The certification can recognize superior levels of quality in both products and services. John Hill, of **Pioneer Performance Inc.**, said that **ISO 9001 is a game-changing certification** for any cannabis extractor.

**“There are few cannabis producers in the world with ISO 9001 Certification, which sets apart the ones who have achieved this worthwhile standard,” said Hill. “What’s more, ISO Certification is available for all key elements of a [extraction] business including processing, distribution, information security, occupational health and safety, environmental, laboratory testing, energy management and customer service.”**

**Certifications put you ahead of the pack, and sterling equipment from **Illuminated Extractors** does the same. Let’s talk!**

# CANNABIS EXTRACTION REGULATIONS

**Markets once considered off limits to extraction companies are now ripe for an influx of extraction products.**

It's clear that a [significant portion of consumers](#) prefer the ease and convenience of extracts and edibles. Cannabis businesses preparing for the future of the industry must take changing consumer tastes into consideration while keeping an eye on the regulatory landscape.

As the industry progresses, more state legalization laws will hit the books and federal laws will also inevitably shift to favor the interests of extractors. Until that happens, here are some of the most important regulatory considerations to keep in mind as you prepare an extraction processing facility.

## State Regulations

As it stands right now, nearly [half of the U.S. population](#) lives in states where adult-use cannabis is legal. Those staggering numbers should be exciting for any burgeoning cannabis company. But what about laws allowing cannabis extraction? What are the rules for states that allow cannabis extraction?

**For this section, we will focus on three states in particular: Colorado, California, and Washington.**

### Colorado

According to the Colorado Marijuana Enforcement Division's (MED) [2019 annual report](#), 40,229 pounds of concentrate products were sold across both the medical and adult-use markets that year, up nearly 128 percent from the 17,647 pounds of concentrate products sold in 2016.

For the cannabis extraction rules in the state of Colorado, we can look to the [Denver Fire Department](#), Fire Prevention Division. While comprehensive, the Denver Fire Code states that it is the responsibility of the extraction company to follow all applicable codes and standards.

## California

When it comes to the cannabis market, the Golden State is the gold standard. California became the first state to allow medicinal cannabis use when voters passed the Compassionate Use Act in 1996. Today, statutes, regulations, and ordinances of all types set rules for businesses and consumers.

The [Medicinal and Adult Use Cannabis Regulation](#) and Safety Act (MAUCRSA) offers a basic framework for licensing, oversight, and enforcement related to cannabis businesses. In addition to cannabis-specific laws, cannabis businesses must also follow the same rules that other businesses in California must follow, which includes waste disposal, environmental protections, and equipment registration. What's more, California's Department of Cannabis Control (DCC) enforces regulations for all cannabis businesses to follow. The DCC's [current regulations](#) cover a host of compliance requirements for extraction companies.

## Washington

When Washington State joined Colorado in legalizing adult-use recreational weed in 2012, it also enacted its own set of compliance regulations. The Washington State Legislature sets those laws, and cannabis extraction processors are expected to closely follow each section.

For example, cannabis processors are limited to the methods, equipment, solvents, and gases used in creating cannabis extracts. Any solvents used in the state must be of at least 99 percent purity, used in a professional closed-loop extraction system with proper ventilation and other safety measures firmly in place. For the full list of extraction requirements in Washington, [visit this page](#).

## FEDERAL REGULATIONS

It's difficult to determine when federal legalization will occur. To say the least, it's a fluid process that's seen many starts and stops over the last decade. Recently, after first unveiling a draft of reform legislation, three U.S. senators formally filed the [Cannabis Administration and Opportunity Act](#) (CAOA). The release of this act put advocates and stakeholders on high alert. It's the closest we've come to federal legalization so far.

**Before federal legalization takes hold, it's crucial that you strengthen your product standards.**

While a wider consumer audience could mean a boom to your business, if your extraction products are not up to the standards of nationwide consumers, it could also expose shortfalls. With federal legalization, extractions are poised to become one of the largest growing consumer packaged goods (CPG) in any sector, so your business must be up to standard.

**Illuminated Extractors has you covered in terms of state regulations. [Let's connect and advance your operation!](#)**



# CONCLUSION

**Cannabis extraction compliance is a long journey—and Illuminated Extractors will light your path toward success in the marketplace.**

The sheer weight of compliance requirements could scare some fledgling extraction companies away. They might look at all of the regulations and guidelines, factor in the cost of implementing certain safeguards and achieving crucial certifications, and decide it isn't worth the effort.

The cannabis industry is growing fast, and as consumers search for convenient ways to enjoy the benefits of cannabis, extraction-derived products will gain even more popularity. Prepare for the windfall by exploring extraction solutions from Illuminated Extractors.

**Illuminated Extractors is here to tell you it is worth the effort.**

# ILLUMINATED EXTRACTORS HAS YOU COVERED IN TERMS OF STATE REGULATIONS.



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