

Solutions for the Cannabis Industry



Gilson Equipment for the Cannabis Industry

VERITY® CPC Process

The VERITY® CPC Process system performs silica-free (environmentally friendly) chromatography for industrial purification. This is the most advanced CPC solution for annually processing tons of cannabis samples with the greatest returns for both mainstream and minor cannabinoids. The system is designed to comply with the highest regulatory and safety standards (EU -UL, GMP -ISO, ATEX -HAZLOC) and allows maximized solvent recovery. The VERITY® CPC Process system includes Gilson's latest generation of LC SKID systems.



LEARN MORE: go.gilson.com/verity-cpc-process

VERITY® CPC Lab & Pilot

The VERITY® CPC Lab 250 is an ideal system for fast method development and small production for analytical purposes of pure standard cannabinoids. Benefits include a digital MS detection and autosampler.

The VERITY® CPC Pilot 1000 PRO system is our most sold CPC solution for annually processing of milligram up to multi-kilograms of cannabis extracts with 95% recoveries and 99% purity, or better. Both our Lab and Pilot systems are a perfect fit with Gilson LC purification systems.

From lab to pilot and process scale, Gilson has a unique ability to deliver a consistent end-to-end CPC portfolio.



LEARN MORE: go.gilson.com/verity-cpc-pilot



Interested in Learning More?
Contact Our Cannabis Team
www.gilson.com/contact

LC Purification System (PLC)

With the capability to purify compounds by preparative HPLC, flash, and CPC chromatography on the same instrument, Gilson's PLC Purification systems simplify compound purification and are the most flexible investment option available at Lab and Pilot scales. These very compact and intuitive systems fit any lab, allowing teams to use pre-programmed methods, queue samples, and create multiple, unattended runs. They deliver high-level results with the roughest as well as the most refined samples while the customizable pumps facilitate the scale-up work from research to production.



LEARN MORE: go.gilson.com/plc

ASPEC® 274

This ASPEC® system is for solid-phase extraction (SPE), one of the most efficient sample clean-up techniques available. It is instrumental in addressing cannabis matrices (e.g., seeds, oil) interferences and making accurate quantification of target analytes such as pesticides, herbicides, plant growth regulators, and mycotoxins. Its positive pressure technology ensures reproducible extractions while the cartridges and multiple probes design allow for automated, parallel processing and maximal throughput.



LEARN MORE: go.gilson.com/aspec-274

Gilson SupaTop™ Syringe Filters

Gilson SupaTop™ Syringe Filters protect the analytical system from getting clogged with micro-particles. With a body made of pigment-free polypropylene, the syringe filters are certified for low levels of UV-absorbing extractables. All matrix types can be addressed thanks to the large variety of available membranes: MCE, Nylon, PTFE, PES or PVDF.



LEARN MORE: go.gilson.com/syringe-filters

Gilson Services for the Cannabis Industry

With over 40 years of experience in preparative and industrial chromatography, Gilson Purification services teams have worked hand-in-hand with cannabis researchers and businesses, bringing them:

- Extensive command of the entire processing workflow and the main purification techniques applied with cannabis (prep HPLC, flash, and CPC)
- End-to-end services from feasibility study to production, including industrial intensification, operator training, and product value optimization
- Access to state-of-the-art databases and lab facilities built to address research, pilot, and process scale challenges
- Flexible and reactive support that can be provided directly at your site or real-time via dedicated software and tools solutions.

A Global Reach

From lab to industrial scale, we have supported hundreds of cannabis scientists and technicians around the world with our purification services and systems.



Helping Our Customers Achieve Success

Your needs, our goal



Assess the potential of your sample

How we can support you

1. Screen available feasibility studies (considering Prep, CPC, Flash...)
2. Develop methods optimized for your sample
3. Produce up to several grams of pure molecules (as a standard or for trials)



Perform Proof of Concept up to process scale

4. Perform the intensification and scale-up studies
5. Produce up to multi-kilograms of pure molecules (as raw material or for trials)
6. Review the economics and risks related to large scale production*



Optimize your own production resources

7. Assist with the organization of the production process
8. Train your teams at a Gilson Purification center and/or on-site
9. Provide support and equipment through the operational ramp up stage

*Outsourced production services available upon request.

"I am convinced that this purification technique (CPC) is a strong fit for our market but manufacturers must responsibly contribute their expertise to support such projects. The feasibility study and optimization steps before industrializing a process are critical to get quality products and Gilson's Purification Services teams were a critical enabler."

- Director of Analytical Development, Top 10 Natural Raw Materials & Hemp Company

Cannabis Knowledge Toolbox

Webinars



Future of Cannabinoids - Extraction/Purification

The cannabis industry continues to grow and evolve every year. In this webinar, you'll learn about recent calls for change in the industry, how cannabis suppliers are contributing to these changes, and how they can do so in a profitable way.

WATCH VIDEO: go.gilson.com/webinar-future-of-cannabinoids



Cannabinoid Purification by Centrifugal Partition Chromatography (CPC)

The ongoing changes in the legal status of cannabis compounds for medicinal use, as well as the decriminalization of marijuana in some locations, continues to spark interest in the purification and detection of cannabinoids. Learn more about the purification of cannabinoids by centrifugal partition chromatography in this educational webinar.

WATCH VIDEO: go.gilson.com/webinar-cannabinoid-purification



The Other Benefits of CPC Which We Forgot to Talk About During the "Green Gold Rush"

From the early days of CBD purification and THC remediation to the recent focus on minor cannabinoids isolation, centrifugal partition chromatography (CPC) consistently provides a sound advantage to both the scientific and business communities. In this webinar, we share our experience with using CPC in bio-engineering and present a new software that will help improve your LLC strategy.

WATCH VIDEO: go.gilson.com/webinar-benefits-of-cpc



Application Notes



Single-Step Purification of THC, CBD, CBN, CBG and Minor Cannabinoids by CPC

CPC is recognized as the preferred technology for the purification of high quality Δ -9-tetrahydrocannabinol (THC) and cannabidiol (CBD) for the pharmaceutical and food supplement markets. The objective of this app note was to test the high selectivity of CPC and assess its capability to purify a set of key compounds (THC, CBD, CBN and CBG) and enrich several minor cannabinoids (CBDV, CBCV and CBC).

READ MORE: go.gilson.com/an1036



Multi-Ton Processing of Full Spectrum Cannabis Oil for THC Remediation

Δ -9-tetrahydrocannabinol (THC) content in cannabis products, such as food supplements, vapes, or medicinal matrices, is strictly regulated in most countries worldwide. This application note demonstrates the added value of CPC for THC remediation of multiple tons of full-spectrum oil.

READ MORE: go.gilson.com/an1040



ASPEC® System: Fast, Accurate, and Reliable Quantification of THC and Metabolites from Blood in Forensics Testing with Fully-Automated SPE

Accurately quantify THC and metabolites for forensic purposes.

READ MORE: go.gilson.com/an1039



Added Value of Applying Centrifugal Partition Chromatography (CPC) to Bioprocessing Downstream Purification

Fermentation allows for the conversion of organic materials into relatively simple substances by using micro-organisms such as bacteria, Streptomyces, filamentous fungi, or yeast. In this app note, we demonstrate the added value of CPC at achieving an efficient separation from a fermentation broth in one step.

READ MORE: go.gilson.com/an1041



Articles



Perspectives on Cannabinoid Purification

In just a few years, the cannabis industry status has gone from irrelevant and immoral to a pervasive, economic Eldorado with double-digit growth and a better-life promise. It is time to take a step back and discuss several critical pain points within the industry.

READ MORE: go.gilson.com/cannabinoid-purification



The Green Rush: The Rise of Cannabidiol Oil

Cannabidiol oil is a hot topic in the news and a popular product in commerce these days, thanks to its professed ability to treat an incredible variety of health issues, including chronic pain, mental illnesses, and cancer.

READ MORE: go.gilson.com/rise-of-cbd-oil



What's the Best Solution to Purify or Extract Cannabis?

In a growing market, finding the best solution for your team to extract, purify, or fractionate cannabis is vital. Consider these solutions when designing your method.

READ MORE: go.gilson.com/best-solution



Centrifugal Partition Chromatography's New Use: Medical Marijuana

As researchers rush to investigate the therapeutic benefits of cannabis, a lab tool long used by natural product chemists has found a new application.

READ MORE: go.gilson.com/med-marijuana



Centrifugal Partition Chromatography: The Key to Green Preparative Chromatography

Learn more about how Chemists are looking for "green" purification methods that can reduce the impact of their work on the environment, particularly from the hazardous materials they use. One chromatography solution, centrifugal partition chromatography (CPC), uses familiar materials but significantly smaller volumes of solvent than traditional chromatography methods.

READ MORE: go.gilson.com/green-preparative



Advantages of Centrifugal Partition Chromatography (CPC) for Cannabidiol Purification

Cannabidiol (CBD) is a non-psychoactive cannabinoid from the Cannabis sativa L. (Cannabaceae) plant. Researchers have shown that CBD's medicinal properties may be of use for treating a variety of conditions including pain, inflammation, epilepsy, and cancer.^{1,2} Recently, the US Food and Drug Administration (FDA) approved the first cannabis-derived drug (Epidiolex®) to treat children with rare forms of epilepsy.

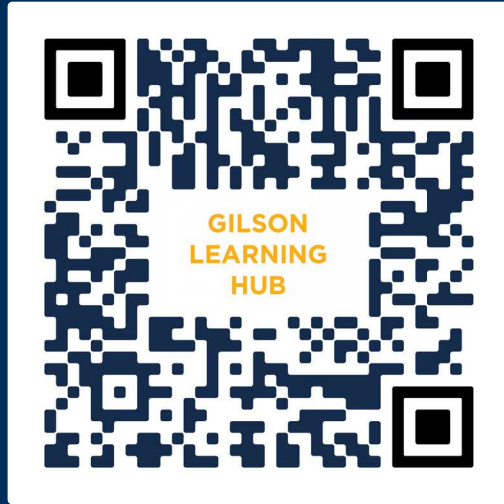
READ MORE: go.gilson.com/cpc-purification



Centrifugal Partition Chromatography (CPC): A Greener Method for Efficient Purification of Cannabis-derived Compounds

As demand for pure cannabis compounds increases, so too will solvent usage as manufacturers scale up purification to meet the demand.

READ MORE: go.gilson.com/greener-method



LT800614 | © 2021 Gilson Corporation

All product and company names are trademarks™ or registered® trademarks of their respective holder. Use of the trademark(s) in this document does not imply any affiliation with or endorsement by the trademark holder(s).