

# Yakima Chief Hemp

POWERED BY SÖRSE™

## Yakima Chief FAQ – Yakima Chief Hemp Powered by SÖRSE

### Why did Yakima Chief grow hemp?

- Farm Bill 2018 created the opportunity.
- The similarities between hops and hemp uniquely position Yakima Chief to farm and process hemp with the same quality and consistency as the hop products.

### Which farms are growing hemp?

- The same growers Yakima Chief has always used to deliver hops for your craft brew projects are now growing hemp with the same quality standards and safety procedures.

### What is SÖRSE's relationship to Yakima Chief?

- Yakima Chief and SÖRSE are working together on many innovative projects. You'll hear more about our latest advancements soon!

### Who is SÖRSE? What do they do?

- SÖRSE is the leading water-soluble emulsion technology for infusing oil-based functional ingredients including cannabinoids in beverages, food items, and topicals.
- SÖRSE's mission is to make difficult functional ingredients easier to work with, safer to ingest, and better-tasting!
- SÖRSE Timeline:
  - 2017: SÖRSE entered Washington state's legal recreational industry and develops emulsion technology
  - 2018: SÖRSE powers the top two beverages in Washington state and shifts to B2B CBD sales
  - 2019: SÖRSE expands to international market, signing a multi-year agreement with The Valens Company, granting rights to produce and distribute SÖRSE in Canada, which was later expanded upon to include Mexico, Europe, and Australia
  - 2020: SÖRSE's client base grows to 50+ companies and has a presence in Canada, Mexico, Europe, Australia, Colombia, and China

### How many CBD clients does SÖRSE have on the market?

- SÖRSE currently powers over 65 products on the market.
- Customer examples: Mad Tasty, Cann, VYBES, APRCH, Kleer, and Lei Back. Most of these are widely available in the US.

### What regions outside the US does SÖRSE have presence in?

- Australia, Canada, China, Colombia, Europe, Japan, Mexico, and the United Kingdom.

### What safety, quality assurance, and testing standards does SÖRSE require?

- GMP Production Standards: All SÖRSE products are manufactured using safe ingredients in facilities that comply with food and beverage industry standards and are regularly audited for quality assurance.

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- SÖRSE tests inbound raw materials for solvent residues, potential THC presence, pesticide residues, heavy metals, mycotoxins, and pathogens.
- SÖRSE tests all final SÖRSE product to verify potency and quality.
- All testing is done internally as well as with a 3rd party testing facility.

## What makes SÖRSE Technology a superior water-soluble CBD solution for beverages?

- Stability: Depending on the emulsion, it remains stable for 6+ months (data-backed).
- Improved Sensory: Minimal flavor profile, no hemp taste or smell.
- Accurate and Easy Dosing: Even distribution through homogeneity results in near-perfect dosing and accurate label claims.
- Homogeneity: Designed for even dispersion throughout the product.
- Bioavailability: Blankets small particles, which allows the body to absorb them more quickly and more completely. Quick onset: 10-20 mins.
- Safe Ingredients: Clean label approach, uses safe ingredients that are known and accepted by the food and beverage industry.
- Seamless Integration: Can be easily integrated into the production process.
- Proven in Market: SÖRSE is currently powering over 60 market-leading products.

## What's unique about Yakima Chief Hemp?

- This hemp is brought to you by the same growers of Yakima Chief Hops.
- A careful and clean extraction process lends to favorable sensory characteristic of the distillate.
- The distillate is THC-free.
- The distillate has some levels of CBG.
  - CBG stands for Cannabigerol, another cannabinoid with potential medicinal benefits.

## Available Yakima Chief Hemp Products Powered by SÖRSE:

### Water-Soluble CBD Distillate:

- Broad Spectrum Hemp Extract brought to you by the growers of Yakima Chief Hops is converted into a water-soluble 3% emulsion for seamless infusion into functional beverages. Broad Spectrum Hemp Extract contains a wide array of cannabinoids including CBD, terpenes, and essential oils to achieve the entourage effect, making it an ideal product for creating CBD beverages with no detectable THC.

## What is emulsification? How does it work?

- Emulsification is the process of mixing two or more liquids that are normally immiscible.
- During emulsification, the oil-based particles are blanketed in water-miscible ingredients to create a uniform mixture.

## What makes the CBD emulsion look cloudy/hazy?

- The cloudy/hazy appearance of the finished product has to do with the particle size of the emulsion.
- To remain stable, the particles (oil droplets) must be small, numerous, and evenly dispersed.

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- Because of the even dispersion, the particles reflect and scatter more light, which creates a cloudy appearance, also known as the Ouzo Effect.

## **How long does the cloud/haze in the CBD emulsion last in solution?**

- Our broad spectrum emulsion has a shelf life of 6 months.
- The homogeneous cloud or haze is an indicator that the emulsion is still stable within the solution, and as a result, the amount of CBD in the first sip will be the same amount of CBD in the last.
- Additional Context: If the cloud/haze is uneven, the emulsion is no longer stable.

## **Does your CBD emulsion survive pasteurization?**

- Likely, yes, but it depends on the product and pasteurization process.

## **Does pasteurization impact the flavor of CBD?**

- The impact of pasteurization would depend on the formulation, the pasteurization process being utilized, and when pasteurization occurs.
- Many of our current clients pasteurize their products with no issues.

## **Does this CBD emulsion oxidize like hops once opened?**

- Once opened and exposed to air, the likelihood of oxidation will increase.
- Given enough time, anything that can oxidize, will.
- If an opened container was purged with nitrogen, this would slow the rate of oxidation.