

PRODUCT INFORMATION SHEET

PRODUCT NAME: YC-CO₂ Hop Extract

MANUFACTURER: Yakima Chief, Inc.
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DESCRIPTION:

YC-CO₂ Hop Extract is a pure resin extract of hops containing hop oils, beta acids and alpha acids. Yakima Chief's CO₂ extraction process concentrates the soft resin portion of hops to deliver clean bitterness and hop aroma. Extraction parameters are defined to best protect aroma, flavor and bittering characteristics. YC-CO₂ Hop Extract is virtually free of Nitrates.

YC-CO₂ Hop Extract can be made from any available hop variety.

Fresh hop aroma and flavor characteristics will not change after extended periods of storage.

APPLICATION:

YC-CO₂ Hop Extract is primarily used as a kettle hop ingredient to *provide "clean" bitterness and hop character* to beer. Also, it will *improve physical stability* and will *contribute to a more consistent beer*.

Traditionally, kettle hopping with leaf hops, pellets or extract will also lead to improved trub formation, antimicrobial and antifoam properties.

ADDITION PROCEDURE:

Add the CO₂ Hop Extract in wort early during kettle boil for bitterness and late during kettle boil for aroma. YC-CO₂ Hop Extract packaged in bulk drums has to be heated up to 50-60°C for some hours to be melted prior to injecting it into the brew kettle. Heating temperature and time may depend on hop variety and addition rate will depend on the alpha concentration in the extract. YC-CO₂ Hop Extract packaged in custom tins can be directly flushed with hot wort in the brew kettle or in specific by-pass dosing systems.

USE RATE CALCULATIONS:

Addition during early kettle boil to achieve average bitterness in high gravity wort/beer will typically lead to the isomerization of about 35% of the alpha acids in the finished beer. Addition rate is thus calculated as follows

$$\text{KgA} = \text{BU} \times \text{HI} / 3500$$

Where:

- KgA = Kg of alpha acids to add in the brew kettle
- BU = Is the desired amount of bitter units in the finished beer
- HI = HI of finished beer

Use rates may vary depending on the brewing process and the desired hopping level.

AROMA:

The aroma of the extract is described as herbal, floral, piney or citric. Aromatic notes will be variety specific. Perception of hoppy character and various related notes in beer will be variety specific, and will depend on the quantity of extract added and the time of addition during kettle boil.

ANALYSIS:

Alpha acids and beta acids are measured by HPLC with the International Calibration Extract as reference.

PACKAGING:

Standard packaging is available in bulk 55-gallon steel drums or in 0.5 Kg, 1 Kg, 2 Kg, 3Kg and 4 Kg tins containing from 200 gr. alpha acids to 2.0 Kg alpha acids. A complete list of packaging information can be obtained upon request.

Uniformity of extract can be achieved with lot sizes up to 10,000 KgA.

YC-CO₂ Hop Extract is a pure resin extract of hops that can be standardized with syrup to any concentration on request.

STORAGE:

YC-CO₂ Hop Extract may be stored at room temperature or refrigerated.