PRODUCT INFORMATION SHEET

PRODUCT NAME: YC-Reduced Iso

MANUFACTURER: Yakima Chief, Inc.
P.O Box 209
555 W. South Hill Road
Sunnyside, WA 98944
U.S.A
Tel: +1.509.839.90.22
Fax: +1.509.839.55.70

DESCRIPTION:

YC-Reduced Iso is a clear amber aqueous solution of the potassium salts of hop derived Dihydroiso-alpha-acids. YC-Reduced Iso is derived from a pure resin CO_2 extract of hops and is standardized at 35% w/v by UV analysis. Custom blends and formulations may be available upon request.

APPLICATION:

YC-Reduced Iso as 100% of the hop bill or in conjunction with other light stable hop extracts for the ***hopping of light stable beers***. YC-Reduced Iso is stable to light and will not contribute to the development of sun struck flavors.

YC-Reduced Iso as part of your hop formulation to ***improve long term flavor stability***.

YC-Reduced Iso as part of your hop formulation to ***differentiate beers***. Bitterness intensity is 0.7 times the bitterness per BU when compared to iso-alpha acids. Bitterness profile is smoother than for iso-alpha acids, leaving a full body mouth feel with little after bitter. This can be perceived at high concentrations (>10 ppm). Formulation of the hop bill with various ratios of IAA:DHIAA:THIAA can provide a wide range of flavors.

USE RATE CALCULATIONS:

The kettle addition of 0.5 L. of YC-Reduced Iso at 35% w/v per equivalent 100hL of finished beer will provide 9 Bitter Units. Note the above recommended addition rate is per 100hL of finished beer and the effective addition rate has to figure in the concentration factor (during boiling and fermentation) and the dilution factor.

The same addition rate at the post-fermentation stage and in optimal dosing conditions will provide 11 Bittering Units.

Use rates may vary depending on the point of addition and the desired hopping level.

DOSING METHODS:

Yakima Chief recommends the direct, undiluted injection of YC-Reduced Iso into the beer stream.

For product differentiation; YC-Reduced Iso can be used at the post fermentation stage. Prior to use, the 35% w/v YC-Reduced Iso has to be heated up to 60°C and shaken in order to dissolve any precipitate. Yakima Chief recommends dosing the product pure, without dilution prior to injection.

If an appropriate pump is not available, YC-Reduced Iso can be diluted with de-ionized water. The dilution factor will be determined according to the available dosing installation. Buffering agents are not required. Dilutions should be prepared, and used fresh. YC-Reduced Iso will crystallize more upon each subsequent

heating.

YC-Reduced Iso should be added to beer after fermentation and primary filtration, at a point where there is good mixing, no foaming, and ideally before a final filtration step. A good proportioning over min. 75% of the filtration time is recommended. YC-Reduced Iso injections should be made with a positive displacement pumping system. CO_2 backpressure should not be used. A 2-3 mm diameter dip tube positioned in the middle of the beer stream and oriented against it provides excellent dispersion.

CHARACTERISTICS:

FLAVOR of a solution in de-ionized water containing 10 mg/L. of DiHydroIso-*alpha*-acids:
A fine bitterness with no other detectable flavors.
AROMA of a solution in de-ionized water containing 10 mg/L. of DiHydroIso-*alpha*-acids:
None Detectable
GUSHING POTENTIAL IN BEER:
No Increased Potential

PACKAGING:

20 L deltangular plastic containers, 2 layers of 16 drums per pallet (640 L)

STORAGE:

Unopened containers stored at room temperature for 16 months. Product should be stored at room temperature. A deposit may form on prolonged storage at low temperatures. This deposit dissolves on warming to 60°C overnight and shaking. Opened containers should be used within 1 month.