



Isomerized Kettle Extract (IKE)

Overview

- Isomerized Kettle Extract contains Isomerised α -acids and β -acids and hop oils.
- IKE is produced from CO₂ extract and can be used as a complete replacement for normal or late addition kettle extract.
- IKE produces a similar flavour to CO₂ extract whilst greatly improving the utilization of Iso- α -acids

Specification

- Description:** A solvent-free, non-aqueous mixture of the free acid form of Isomerised α -acids, β -resins and oils
- Iso-alpha-acids:** Iso- α -acid content varies according to the hop variety used but is typically in the range of 40-60%
- Alpha Acids:** Typically <2%
- Beta-acids:** Typically 15 - 40% (depending on variety)
- Hop Oils:** Typically 3 - 12% (depending on variety)
- Density:** Typically 0.9 - 1.0% g/ml

Properties

Appearance:

A golden or pale brown thick syrup which becomes more fluid on warming; substantially more mobile than corresponding CO₂ extract

Utilization:

Based on HPLC analysis (using the DCHA Iso standard) utilization of iso- α in final beer can be as high as 45-55% when the extract is added at the start of the boil. Trials have also shown that hop oil retention in late addition brews is greatly enhanced when using IKE (up to 4 times)

Flavour:

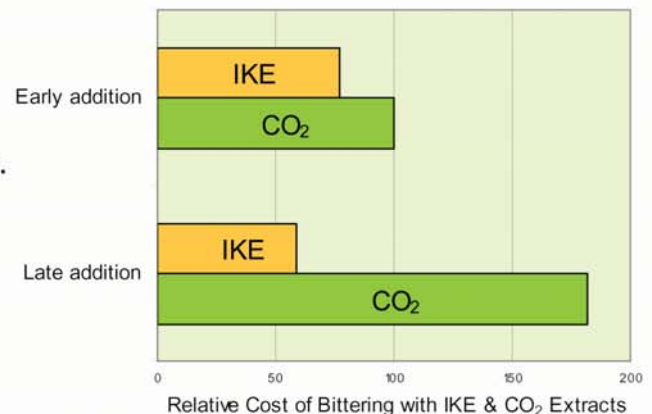
Brewing trials show that beers of identical aroma and taste can be produced when IKE is used as a direct replacement for normal CO₂ extract. However care must be taken to ensure that late addition of IKE does not result in excessive hop character due to the increased retention of hop oil in final beer.

Packaging:

IKE is normally packaged in 20kg pails. It can be packaged in cans and bulk drums according to customer requirements.

For convenience of use, customers may have their extract packed in cans to any desired content of iso- α -acids per container (e.g. 450g iso- α per can). Alternatively, the iso- α -acids content of IKE can be standardized to any particular concentration using glucose syrup (non-GM glucose cannot be guaranteed) and the container filled to a standard weight (e.g. 30% iso- α in 1kg cans).

Cost saving opportunities with IKE
(Based on trial data)





Product Use:

Typically used in the kettle as 100% replacement for normal kettle extracts.

Dosage:

Calculation is based on the iso-alpha concentration in the IKE and the assumption that the utilization of the iso-a is likely to be at least 50% better than that achieved with the alpha in normal extracts. Actual utilization will vary from brewery to brewery depending on plant and process conditions.

Addition:

Handled in bulk, IKE should be warmed to c. 30°C (82°F) before use; otherwise IKE can be added in similar ways to normal kettle extracts. IKE can be added into the kettle either at the start of filling, at the start of boil or up to 5 mins before kettle cast. Because of its lower viscosity, it particularly lends itself to bulk handling and dosing.

Storage:

IKE should be stored in sealed containers at <10°C (50°F). Opened containers should be used up quickly.

Best Before Date:

IKE is stable for 2 years from date of production under recommended storage conditions.

Safety:

IKE is mildly corrosive due to its low pH. It should be handled in a similar way to normal kettle extract. Any material coming into contact with the skin should be washed off with soap and water. If IKE gets into the eyes, irrigate immediately with excess water until clear and seek medical attention.

Analytical Methods:

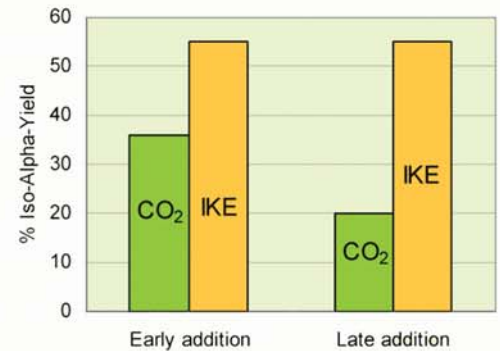
The concentrations of Iso-a-acids, B-acids and residual a-acids.

The concentrations of iso-a, B- and a-acids are measured by HPLC using the current ICS & ICE standards according to EBC 7.8 method: sample preparation according to the EBC method 7.7.

Concentration of Hop oils

Hop Oil concentration is measured by either IOB 6.3 or ASBC hops-13 method.

Comparative Iso-Alpha Yield
CO₂ Extract and IKE



Comparative Oil Recovery - CO₂
Extract and IKE

