



# IKE (Isomerised Kettle Extract)

IKE is prepared from hop (*Humulus lupulus* L.) CO<sub>2</sub> extract and contains iso- $\alpha$ -acids in their free form along with soft resins and hop oils. IKE can be used as a complete or partial replacement for normal kettle extract. The isomerisation rate is > 92% of the original  $\alpha$ -acids content.

## CHARACTERISTICS

IKE is an alternative to CO<sub>2</sub> extract resulting in higher bitterness efficiency by replacement of hops, pellets or extract in the kettle. Properties are generally similar to conventional CO<sub>2</sub> extract but the utilisation of iso- $\alpha$ -acids is significantly higher, however some change of aroma may be noticeable.

## PRODUCT SPECIFICATIONS

<b>Appearance</b>	A homogeneous, viscous or semi-liquid paste of the free acid form of isomerised $\alpha$ -acids, $\beta$ -acids and oils. The color can vary from yellow/golden to pale brown/green
<b>Density</b>	0.85 - 1.0 g/mL
<b>Viscosity</b>	Approx. 0.1 - 3 Pas at 30 - 40 °C (depending on varieties)
<b><math>\alpha</math>-acids</b>	< 5 % absolute
<b><math>\beta</math>-acids</b>	Approx. 15 - 30% (depending on varieties)
<b>Iso-<math>\alpha</math>-acids</b>	Approx. 40 - 60% (depending on varieties)

## QUALITY AND FOOD SAFETY

Barth-Haas maintains quality management systems registered to the ISO 9001 standard, as well as food safety management programs based on internationally recognized (HACCP) principles. Please refer to our web site ([www.barthhaas.com](http://www.barthhaas.com)) for more information on our systems and programs.

## PRODUCT USE

IKE can be used as a replacement of cone hops, pellets, or extract in the kettle. Expect an improved utilisation of approximately 60% and similar hop aroma. Very good bitterness utilisation will be achieved irrespective of the time of addition. However, when IKE is added late to the wort boil, this will also impact on the hop aroma imparted to the beer. We therefore recommend that IKE is added early in the boil for bitterness, with conventional Type 90 or Type 45 pellets added late for hop aroma. The quantity to be added is calculated using the iso- $\alpha$ -acids content and the expected utilisation. We recommend performing trials with IKE to determine its suitability, since the utilisation may vary depending on plant and processing parameters. If added by means of an automatic dosing system, the extract should be warmed to 40 °C and gently agitated to ensure effective dosing.



## PACKAGING

If requested, standardisation to a certain iso- $\alpha$ -acids content can be achieved by adjusting the weight of extract in each container. Container sizes range from 0.5 to 4 kg. Non-returnable bulk containers are available in sizes ranging from up to 50 to 200 L. When bulk containers are supplied for automatic dosing units, viscosity analysis may be provided upon request. All internal surfaces of containers are lined with a food grade coating.

## STORAGE AND BEST-BY RECOMMENDATION

IKE stored in full, closed containers is best used within 24 months when stored at  $< 10^{\circ}\text{C}$  ( $50^{\circ}\text{F}$ ) from the time of production. Opened containers should be used within a few days.

## ANALYTICAL METHODS

The following methods of analysis are recommended for IKE:

- EBC 7.8 for Iso- $\alpha$ -acids,  $\alpha$ -acids,  $\beta$ -acids by HPLC
- EBC 7.10 for Hop oils
- ASBC Hops-13 for Hop oils

## SAFETY

Any material coming into contact with the skin should be washed off with soap and water. For more information download the relevant Safety Data Sheet (SDS).

## TECHNICAL SUPPORT

We will be pleased to offer help and advice on the use of IKE in brewing.

E-Mail: [Brewingsolutions@barthhaas.de](mailto:Brewingsolutions@barthhaas.de)