

ISOMERISED KETTLE EXTRACT



OVERVIEW

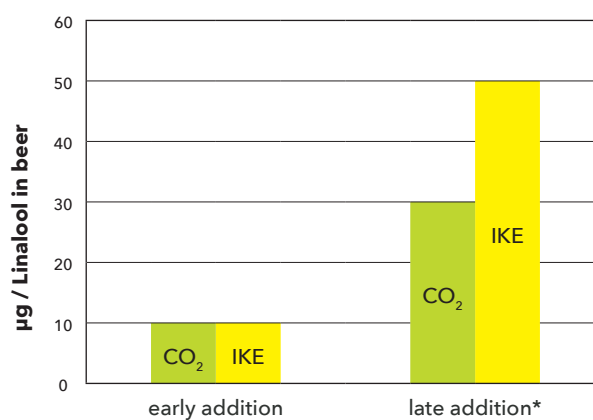
- **Isomerised Kettle Extract (IKE)** contains isomerised alpha acids, beta acids and hop oils. Due to pre-isomerisation of the alpha acids, yields in the brewing process are higher.
- **IKE** is produced from CO₂ hop extract and can be used as a partial or complete replacement for CO₂ extract.
- Can be utilised as a late hop addition at the end of wort boiling. In this case, a distinctive hop aroma can be achieved with a similar level of hop utilisation.



PROPERTIES	
APPEARANCE	IKE is golden green to amber or pale brown in colour and substantially less viscous than the corresponding CO ₂ hop extract.
UTILISATION	Based on HPLC analysis of the finished beer, utilisation of iso-alpha acids can be as high as 45 - 60%. Calculations of utilisation for IKE are based on the assumption that the iso-alpha acid yield is likely to be approx. 50% higher than that achieved with non-isomerised extracts. Late additions of IKE greatly enhance hop oil retention. Actual utilisation will vary from brewery to brewery due to differences in equipment and process conditions.
FLAVOUR	Beers with identical aroma and flavour profiles can be produced when IKE is used in place of CO ₂ hop extract. If added at the end of the boil, IKE imparts a typical late hop aroma to the beer.
CHEMICAL RESIDUES	Nitrates and heavy metals are almost entirely eliminated in IKE . In addition, many pesticide and fungicide residues are largely removed by the previous CO ₂ extraction process.
QUALITY	All Ellerslie Australia products are processed in facilities which fulfill internationally recognised quality standards.
PACKAGING	IKE can be packaged in cans, pails and drums according to customer requirements: Cans: 0.5 to 4kg (USA) 0.5 to 4.2kg (Germany) Pails: 4 to 20kg (USA) Drums: 50kg and 200kg

QUICK SPECS	
DESCRIPTION	Golden green to amber or pale brown extract; flows at room temperature (liquid)
ISO-ALPHA ACIDS	Iso-alpha acid content varies according to the hop variety used but is typically in the range 40 - 60%
ALPHA ACIDS	< 2%
BETA ACIDS	15 - 30% (depending on variety)
HOP OILS	3 - 12% (depending on variety)
PH	2.5 (± 0.5)
VISCOSITY	50 - 100 mPas (at 40°C / 104 °F)
DENSITY	0.9 - 1.0 g/ml (at 20°C / 68 °F)

COMPARATIVE LINALOOL RECOVERY CO₂ HOP EXTRACT AND IKE



*not recommended for CO₂ hop extract

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PRODUCT USE

IKE is typically added to the wort kettle as a complete or partial replacement for CO₂ hop extract.

DOSAGE

Kettle additions of **IKE** are based on the concentration of iso-alpha acids, an estimated or known utilisation and the desired intensity of bitterness in the beer.

ADDITION

IKE can be added in similar ways to regular kettle extracts. **IKE** can be added to the kettle when the transfer of lauter wort to the kettle commences, at the beginning of the boil or up to five minutes before casting out the wort.

Pre-warming cans of **IKE** is not necessary. Suspending punctured cans in the boiling wort will ensure that all of the extract is completely flushed out into the kettle.

If **IKE** is added by means of automatic dosing units, it should be warmed to 30°C (82°F) and gently mixed to ensure perfect dosing.

Note: Ensure that the dosing equipment is capable of handling products with a low pH value.

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 2 years from date of production under the recommended storage conditions

ANALYTICAL METHODS

CONCENTRATION OF BITTER SUBSTANCES

Iso-alpha, alpha and beta acids can be measured using the following methods:

- HPLC according to Analytica-EBC 7.8 or ASBC Hops-16 with the current ICS and ICE standards.

CONCENTRATION OF HOP OIL

The hop oil concentration can be measured using the following methods:

- Analytica-EBC 7.10
- ABC Hops-13

SAFETY

IKE is mildly corrosive due to its low pH. It would be handled in the same way as conventional kettle extract. Any product coming into contact with the skin should be immediately washed off with soap and water. If **IKE** gets into the eye, flush with copious amounts of water until clear and seek medical attention.

For full safety information, please refer to relevant Ellerslie Australia safety data sheet.

TECH SUPPORT

We are pleased to offer assistance and advice on the full range of Ellerslie Australia products:

- Copies of all procedures relevant analytical procedures
- Safety Data Sheets (SDS)
- Assistance with pilot or full-scale brewing trials
- Special analytical services

Disclaimer: The information provided in this document is believed to be correct and valid. However, Ellerslie Australia does not guarantee that the information provided here is complete or accurate and thus assumes no liability for any consequences resulting from its application.

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