

HEXA ISO-EXTRACT (9:1)

Amber, aqueous solution of the potassium salts of primarily hexahydro iso-alpha acids.



OVERVIEW

- **Hexa Iso-Extract (Hexa)** is an aqueous solution of the potassium salts of hexahydro iso-alpha acids derived exclusively from CO₂ extract.
- **Hexa** greatly enhances beer foam when used as a post-fermentation replacement for a portion of conventional bittering products.
- **Hexa** provides protection against lightstruck flavor when used as the sole source for bitterness or in combination with other light stable hop products.

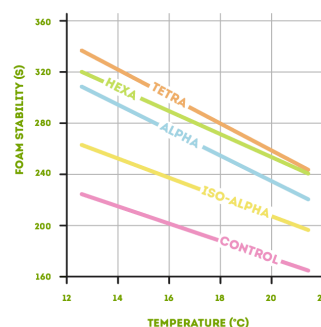
PROPERTIES

APPEARANCE	Hexa is a homogeneous, clear aqueous solution that is amber in color. It is free-flowing at the recommended storage and application temperatures. Hexa is miscible in demineralized water and alcohol.
FLAVOUR	Hexa provides 1.0 to 1.2 times the sensory bitterness compared to that achieved with conventional hop products. The actual intensity of bitterness depends primarily on the quantity of bittering units and the type of beer. Therefore, the target number of bittering units must be determined in preliminary tests in order to achieve the correct level of <u>sensory</u> bitterness.
UTILIZATION	Based on HPLC analysis of the finished beer, utilization of Hexa is 60–8%, depending on the timing and efficiency of the addition. Actual utilization will vary from brewery to brewery due to differences in equipment and process conditions.
QUALITY	All Ellerslie Australia products are processed in facilities which fulfill internationally recognized quality standards.
PACKAGING	Hexa is normally packaged in 20kg pails.
LIGHT STABILITY	Hexa only provides protection against lightstruck flavor in the complete absence of alpha acids and iso-alpha acids. Hexa can be used in conjunction with any Ellerslie Australia light stable product to achieve light stability.
FOAM ENHANCEMENT	Hexa enhances both foam retention and cling. Noticeable foam improvement in beer can be achieved by adding 3mg/l of hexahydro iso-alpha acids.

QUICK SPECS

DESCRIPTION	Amber, aqueous solution of the potassium salts of primarily hexahydro iso-alpha acids
CONCENTRATION	9.0 ±0.5 % (w/w) of hexahydro iso-alpha acids and 1.0 ±0.5 % (w/w) of tetrahydro iso-alpha acids by HPLC (or by UV spectrophotometric analysis if required)
ISO-ALPHA ACIDS	Below detection limit
ALPHA ACIDS	Below detection limit
pH	9.5 (±0.5)
VISCOSITY	2–6mPas at 20°C (68°F)
DENSITY	1.023 (±0.005) g/ml at 20°C (68°F)

TEMPERATURE DEPENDENCE OF NIBEM FOAM STABILITY AND AN ADDITION OF 6MG/L OF HOP ACIDS



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PRODUCT USE

Hexa is typically used as a post-fermentation addition and prior to the final step in filtration.

DOSAGE

Dosage is based on the concentration, an estimated or known utilization and the desired intensity of bitterness in the beer. The fact that the perceived bitterness of **Hexa** is about 1.0 to 1.2 times the bitterness of iso-alpha acids derived from conventional hop products must be taken into consideration. The correct dosage of **Hexa** must be determined through trials at the brewery.

ADDITION

We recommend adding **Hexa** at full strength (undiluted) into the center of the beer stream for at least 70% of the total volume being transferred, preferably prior to the final step in filtration and after any gravity adjustment. An accurate, high pressure dosing pump is required to add the product into the beer stream at a point where vigorous mixing is assured. **Hexa** can be added at ambient temperatures.

If dilution is necessary, create a 1:10 dilution of **Hexa** by adding demineralized water adjusted to pH of 10 – 11 using potassium hydroxide (KOH) or potassium carbonate (K₂CO₃).

If containers are used over several days, it is recommended that the headspace be flushed with nitrogen (CO₂ is not suitable).

CLEANING RECOMMENDATION

Hexa should not be left in dosing lines at low temperatures. Lines and dosing pumps should be flushed with warm, slightly alkaline, demineralized water or ethanol for purposes of cleaning.

BEST BEFORE DATE

Hexa is stable for one year from the date it was produced/packaged if stored under the recommended conditions.

PRODUCT USE

FOR LIGHT STABLE BEER

For maximum protection against lightstruck flavor, it is essential that no other sources of non-reduced iso-alpha acids are inadvertently introduced into the wort or beer. Therefore, the following must be carefully implemented:

- exclusive use of light stable hop products throughout the entire process
- avoid contamination through equipment surfaces previously in contact with regular iso-alpha acids
- never pitch wort with yeast that has been in contact with regular alpha and iso-alpha acids

SAFETY

Hexa is an intensely bitter product. Solutions of **Hexa** are mildly alkaline and therefore contact with sensitive skin should be avoided.

If **Hexa** gets into the eyes, flush with copious amounts of water until clear and seek medical attention.



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ANALYTICAL METHODS

CONCENTRATIONS OF BITTER SUBSTANCES	<p>The concentrations of hexahydro iso-alpha acids can be measured using the following methods:</p> <ul style="list-style-type: none">• HPLC according to Analytica-EBC 7.9• UV spectrophotometric analysis
CONCENTRATIONS OF REDUCED ISO-ALPHA ACIDS IN BEER	<p>The concentration of reduced iso-alpha acids in beer can be measured by HPLC according to Analytica-EBC 9.47.</p> <p><u>Note:</u> It is possible that analysis results for the corresponding value for bitterness must be adjusted. The factor used in this analysis will result in lower values if reduced hop products were used as the exclusive source for bitterness or in higher amounts.</p>
FOAM STABILITY AND CLING TEST	<p>Foam stability can be measured using the following methods listed in MEBAK, ASBC or Analytica-EBC:</p> <ul style="list-style-type: none">• NIBEM-T Meter• NIBEM Cling• Steinfurth Foam Stability Tester• Ross & Clark• Pour Test

TECHNICAL SUPPORT

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

- copies of all 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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