AlphaExtract

Overview

- AlphaExtract is a pure, aqueous solution of natural alpha acids in the form of potassium salts, produced from CO₂ extract.

- AlphaExtract provides a smooth bitterness to beer and its intensity is only 10% of the iso-alpha acids bitterness.

- AlphaExtract also improves the stability and cling of beer foam.

Specification

- Description: A yellow to amber colored solution containing the potassium salts of hop alpha acids
- Concentration: 20 ± 1% (w/w) of alpha acids
- pH: 8.5 (± 0.5)
- Viscosity: 6 mPas at 20°C (68 °F)
- Density: 1.050 (± 0.020) g / ml at 20°C (68 °F)
Properties

- **Appearance**
  Homogeneous yellow to amber, aqueous solution, free flowing at recommended storage conditions. Miscible with demineralized water and alcohol.

- **Utilization**
  Utilization of alpha acids in final beer can vary between 60 – 70% depending on the time and efficiency of dosing, quantity of adjuncts (if any) and bitterness level. Actual utilization will vary from brewery to brewery depending on plant and process conditions.

- **Flavor**
  **AlphaExtract** provides a smooth sensorial bitterness at a dose rate from 7 – 8 mg/l, depending on the type of beer. However, this will lead to an increase in the analytical bitterness (BU). The perceived **AlphaExtract** bitterness is smoother compared to pure iso-alpha acids. At the same time, **AlphaExtract** enhances the stability and cling of beer foam. Noticeable foam improvement can already be achieved with 3 – 4 mg/l of alpha acids in the finished beer.

  ![Effect of Alpha Acids on NIBEM Foam Stability](image)

- **Quality**
  All Hopsteiner® products are produced in plants accredited to internationally accepted quality standards.

Packaging

**AlphaExtract** is normally packaged into 20 or 25 kg pails. Other package sizes are available on request, e.g. IBC of 640 up to 1000 kg.

Product Use

**AlphaExtract** is typically added before final filtration.

- **Dosage**
  Dosage is calculated based on the product concentration, desired dosing rate and the expected utilization. Actual utilization will vary from brewery to brewery depending on method and time of addition.

- **Addition**
  We recommend dosing **AlphaExtract** undiluted to the center of the beer stream during at least 70% of the beer transfer, preferably before final filtration. An accurate, high pressure dosing pump is recommended ensuring vigorous injection into the beer stream. If dilution is necessary, always add **AlphaExtract** to demineralized water to achieve a dilution; adjust pH to 8.5 – 9.5 using potassium hydroxide (KOH) or potassium carbonate (K₂CO₃). In case containers are used for several days, it is recommended to flush the headspace with nitrogen (CO₂ is not suitable).
• **Cleaning Recommendation**  
  **AlphaExtract** should not be left in dosing lines at low temperatures. Lines and dosing pump should be flushed with warm, slightly alkaline, demineralized water or ethanol to clean.

• **Storage**  
  **AlphaExtract** should be stored in sealed containers at 1 - 5°C (34 - 41°F). Avoid exposure to sunlight and use up opened containers as soon as possible.

• **Best Before Date**  
  **AlphaExtract** is stable 1 year from date of production under the recommended storage conditions.

• **Safety**  
  **AlphaExtract** should be handled with due care, especially to prevent contact with the eyes. Any contamination of the skin should be washed off with soap and water. If **AlphaExtract** gets into the eyes, irrigate with excess water until clear and seek medical attention.  
  For full safety information please see the relevant Hopsteiner® safety data sheet.

• **Concentration of Alpha acids in Beer**  
  The concentration of alpha acids in beer is best determined by HPLC using the current ICE standard.  
  If the BU analytical method is applied (either Analytica-EBC 9.8 or ASBC Beer-23) it should be observed that 1 mg/l of alpha acids equals an increase of 0.4 – 0.6 BU. At the same time, the sensorial bitterness is only slightly changing although the analytical BUs increase.

• **Supplementary Information**

  • **Usage in Combination**  
    If **AlphaExtract** shall be used in combination with Iso-Extract, a customer specific stable aqueous solutions of alpha plus iso-alpha acids can be produced.  
    In case **AlphaExtract** and Tetra shall be added to beer, it is important that **AlphaExtract** is added to the beer before Tetra.

  • **Stability of Alpha Acids in Beer**  
    During the normal shelf-life of beer it is not unusual to detect a loss of alpha acids. Nevertheless, it has been demonstrated that this had no effect on the stability and cling of beer foam.

  • **Light Stability of Alpha Acids**  
    It is not recommended to use **AlphaExtract** in light stable beers, as alpha acids can transform into iso-alpha acids, which are not light stable.

• **Analytical Methods**  

  • **Concentration of Bitter Substances**  
    Alpha acids can be measured by any of the following methods:  
    – HPLC method according to Analytica-EBC 7.7. or ASBC Hops-14, using the current ICE standard
Technical Support

We will be pleased to offer help and advice on the full range of Hopsteiner® products:

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

Patent


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