Isomerized Hop Extract 30 % (Iso-Extract)

概述

• Isomerized Hop Extract 30% w/w (Iso-Extract) 是一种水溶液，含有等同于二氧化碳啤酒花浸出液中产生的等同于α酸的钾盐。

• Iso-Extract 可以在发酵后用于提高苦味度或部分替代传统的苦味剂。

• Iso-Extract 通常在过滤前添加，可获得所有啤酒花产品的最高产量。

规格

• 描述：一种清晰的浅琥珀色至黄色的水溶液，含有等同于α酸的钾盐
• 等同于α酸：30 ± 2 % (w/w)
• α酸：< 0.6 %
• β酸：< 0.2 %
• 芳香：< 0.1 %
• pH：9.0（± 1.0）
• 粘度：15 – 20 mPas at 20°C (68°F)
• 密度：1.065（± 0.005）g / ml at 20°C (68 °F)
Packaging

Iso-Extract is normally packaged into pails of 20 kg or 25 kg. Also IBC containers of various sizes are available.

Product Use

Iso-Extract is typically used for post fermentation adjustment of beer bitterness.

Dosage
Calculation is based on the bitterness to be achieved, the strength of the Iso-Extract (typically 30%) and the expected utilization.

Addition
 Iso-Extract is added prior to filtration at full strength. If necessary, it can be diluted to 2 – 5 % in de-ionised water. Should a slight haze appear, this can be removed by adjusting the pH to 8 – 9 by the addition of potassium carbonate ($K_2CO_3$) solution. Never dilute full strength Iso-Extract with beer, as the lower pH will cause precipitation.

Suitable dosing equipment should be used to ensure, that the Iso-Extract is added vigorously, in-line during beer transfer.

In case containers are used for several days, it is recommended to flush the headspace with nitrogen ($CO_2$ is not suitable).

Properties

Appearance
A homogeneous, pale amber to yellow, clear aqueous solution; free flowing at recommended storage and use temperatures. Miscible with demineralized water, alcohol and propylene glycol.

Standardization
Iso-Extract is typically produced as 30% w/w solution of the potassium salt of iso-alpha acids, however, of 10 or 20% concentrations are also available.

Utilization
Based on HPLC analyses utilization of iso-alpha acids in the final beer can be as high as 85 – 90 % if the extract is added prior to final filtration. Actual utilization will vary from brewery to brewery depending on plant and process conditions.

Flavor
Iso-Extract produces a clean bitter flavor. It can be used as a partial replacement for kettle hopping. Iso-Extract is mostly used to adjust final bitterness in beer. Noticeable changes in the bitter taste might be noticed, if more than 30 – 40% of the beer’s total bitterness is achieved by adding Iso-Extract.

Quality
All Hopsteiner® products are produced in plants accredited to internationally accepted quality standards.
• **Storage**
  
  *Iso-Extract* should be stored in unopened containers at 5 – 15 °C (41 – 59 °F). Avoid exposure to sunlight and use up opened containers as soon as possible.

• **Best Before Date**
  
  *Iso-Extract* is stable 3 years from date of production under the recommended storage conditions.

• **Safety**
  
  *Iso-Extract* is an intensely bitter product. Solutions of *Iso-Extract* are mildly alkaline and therefore contact with sensitive skin should be avoided. If *Iso-Extract* 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.

❖ **Analytical Methods**

• **Concentration of Bitter Substances**
  
  Iso-alpha acids can be measured by any of the following methods:
  
  – **HPLC method according to Analytica-EBC 7.9 or ASBC Hops-9C, -9D using the current ICS standard.**

• **Bitterness in the final Beer**
  
  If measuring BU’s in the final beer, take into account that *Iso-Extract* contains only iso-alpha acid and that, unlike more traditional forms of bittering, there is no contribution of other bittering components to the analyses. Hence, the BU value will be lower compared to the concentration of iso-alpha acids measured by HPLC (Analytica-EBC 9.47), at least if *Iso-Extract* was used exclusively or in higher amounts. The factor 50, used for the calculation of BU’s, can be adjusted to a higher value to finally match the sensory bitterness.

❖ **Technical Support**

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

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

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