

酒花油 (薄膜型) Hop oil (Thin Film)

概述 OVERVIEW

酒花油（薄膜型）由特定品种的二氧化碳酒花浸膏经薄膜蒸发工艺制成，保留了酒花中的各类精油成分。Hop Oil (thin film) is produced from thin film evaporation of variety specified CO₂ hop extract and contains the complete range of essential oils found in them.

酒花油（薄膜型）可以在酿造过程的不同阶段添加（通常在冷端）。和添加传统酒花相比，能显著提升酒花油的利用率。通过使用酒花油（薄膜型），可避免出现“酒花蠕变效应”。Hop Oil (thin film) can be added at various points in the brewing process (typically on the cold side of production) and results in improved aroma yields compared to traditional hopping techniques. By using Hop Oil (thin film) the so-called “hop creep effect” will not occur.

酒花油（薄膜型）能赋予啤酒的愉悦的酒花香气，不同的添加时间所体现的香气也有所不同。Hop Oil (thin film) imparts a pleasant hop aroma to beer which varies depending on the time of the addition.

规格 SPECIFICATIONS

简述 Short description: 通过薄膜蒸发工艺从二氧化碳酒花浸膏中萃取的纯酒花油，包含了所有的酒花精油成分。

pure hop oil made from thin film evaporation of CO₂ hop extract, containing the complete range of hop essential oils

主要成分 Key compounds: 香叶烯、葑草烯、石竹烯、法呢烯

Myrcene、Humulene、Caryophyllene、Farnesene

苦味物质 Bittering substances: 未检出

not detectable

密度 Density: ca. 0,85g/ml (20°C/68°F)

如果以1:100的比例和丙二醇混合，20°C/68°F时约为1,0g/ml.

ca.1,0g/ml (20°C/68°F) if diluted 1:100 in PG.

黏性 Viscosity: ca. 10 mPas (25°C/77°F)

性能 PACKAGING

外观 Appearance

酒花油（薄膜型）为近乎无色的透明液体。

Hop Oil (thin film) is a nearly colorless, clear liquid.

风味 Flavor

酒花油（薄膜型）能产生浓郁的酒花香味。根据不同的添加量、添加时间、和添加节点，能提供更微妙的酒花香味。增加用量可能会引起苦度增强。在啤酒陈化过程中，酒花油（薄膜型）的香气成分大多保持稳定，有助于整体风味的稳定性。

Hop Oil (thin film) can be used to provide a strong hop aroma, or alternatively, a more subtle hop aroma depending on the quantity added as well as the time and point of the addition. The intensity of the bitterness might increase depending on the quantity added. During beer aging the aroma components of Hop Oil (thin film) remain mostly stable and contribute to overall flavor stability.

利用率 Utilization

取决于添加时间及添加点，酒花油的复得率可以高达95%。由于每个啤酒厂的设备及工艺条件不同，实际利用率也会有所不同。

Depending on the time and point of the addition, the recovery rate for certain aroma compounds of the hop oil can be as high as 95 %. Actual utilization will vary from brewery to brewery due to differences in equipment and process conditions.

质量 Quality

所有斯丹纳产品均在符合国际认证质量标准的生产设施中完成加工，并配备完善的残留物监测体系。
All Hopsteiner products are processed in facilities which fulfill internationally recognized quality standards. A monitoring system for residues is in place.

包装规格 PACKAGING

本产品采用标准包装规格，也可以根据客户要求提供定制化包装方案。

Our products are delivered in their respective recommended standard packaging. Alternatives may be possible upon customer request.

美国(US)与德国(DE)加工厂的包装规格如下：

Standard packages of our processing plants in the USA (US) and Germany (DE) are:

- 0.5kg和1kg, 铝瓶包装 (DE)
- Aluminum bottles 0.5 and 1.0 kg (DE)

该产品为纯酒花油，也可提供以丙二醇稀释至1:100的包装规格。其他稀释比例可根据需求定制。

The product is supplied pure. A 1:100 dilution in propylene glycol is also available. Other dilutions may be available on request.

产品使用 USAGE

添加量 Dosage

酒花油（薄膜型）的建议添加量需根据具体投料阶段确定：

The required quantity of Hop Oil (thin film) depends on the point of the addition:

- 发酵阶段 To fermentation: 5g/hl
- 熟酒罐中 To maturation: 0.5-3g/hl
- 过滤前 Prior to filtration:
 - △最大添加量0.2克/百升（上层发酵啤酒） up to 0.2g per hl (top fermented beers)
 - △最大添加量0.05克/百升（下层发酵啤酒） up to 0.05 g per hl (bottom fermented beers)

上述推荐添加量仅供参考，实际用量需根据目标香气强度进行调整。建议使用微量注射器将酒花油（薄膜型）注入啤酒中进行小试，以确定最佳添加量。若用该产品替代现有配方中的酒花颗粒，仅需达到原颗粒总精油含量的65-75%即可实现同等香气强度。

The dosage rates above are intended for orientation only; actual additions will depend on the intensity of the aroma desired. Trials performed by injecting oil into the beer with a microliter syringe are helpful for determining the quantity of Hop Oil (thin film) required. If Hop Oil (thin film) is used to replace pellets in existing recipes, 65-75% of the total oil content of the pellets will be sufficient to match the required aroma intensity.

添加方法 Application

使用前请充分摇匀。酒花油（薄膜型）可以在啤酒生产过程中的任何阶段添加，推荐使用计量泵将酒花油添加到啤酒液流中，也可以在灌装前直接添加到发酵罐中。

Shake the packaging well before use. Hop Oil (thin film) can be added at different stages of beer production. Dosing equipment which pumps the product into the beer stream is preferred for the addition of Hop Oil (thin film). Alternatively, the hop oil can be added to the tank prior to filling.

存储 Storage

建议在1-10°C储藏（未启封）。

The recommended storage temperature in the original unopened packaging is 1 - 10 °C.

最佳使用时间 Best Before Date

在建议的储藏条件下，最佳使用时间为生产/包装日期后的一年。启封后请尽快使用。

Under the recommended storage conditions, the shelf life from the date of production/ packaging is at least 1 year. Opened containers should be consumed as soon as possible.

安全性 Safety

确保工作场所通风良好，并佩戴个人防护装备。避免接触眼睛和皮肤，请勿吸入蒸汽或粉尘。更详尽的安全资料请参考斯丹纳产品安全数据表。

Ensure good ventilation of the workplace and wear personal protective equipment. Avoid contact with eyes and skin. Do not inhale vapors or dusts. For full safety information, please refer to the relevant Hopsteiner safety data sheet.

分析方法 ANALYTICAL METHODS

使用ASBC（美国酿造协会）和Analytica-EBC（欧洲酿造协会）等国际权威机构颁布的最新标准方法进行检测。

International approved methods listed in committees such as ASBC or Analytica-EBC using current standards are applied.

产品分析 Product analytics

酒花油成分检测 Hop oil components

- Analytica-EBC 7.12 (GC)
- ASBC Hops-17 (GC)

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