

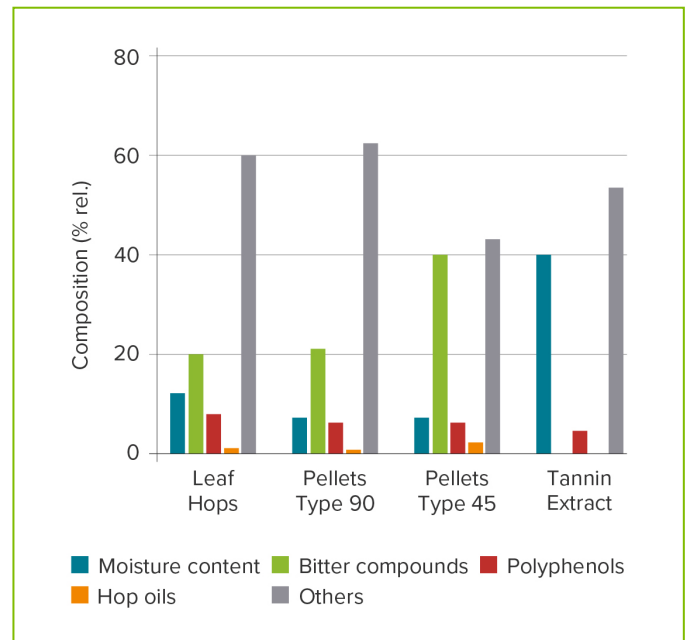
TANNIN EXTRACT

OVERVIEW

The water-soluble fraction arising from the ethanol extraction process of leaf hops - **Tannin Extract** - contains low molecular weight polyphenols, which contribute to flavor.

Among others, the polyphenol fraction of the **Tannin Extract** contains the low molecular weight polyphenols catechin and epicatechin as well as glycosidically bound quercetin, kaempferol and multifidols.

Tannin Extract additionally enables the brewer to add polyphenols during wort boiling for the purpose of improving hot break formation.



SPECIFICATIONS

Short description	hop extract, which contains the water-soluble components of hops (including polyphenols)
Bittering substances	< 2 %
Moisture content	40 - 50 %
Polyphenols	2 - 6 %
Sugars	typically ca. 20 %
Proteins	typically ca. 10 %
pH	5.4 ± 0.5
Density	1.2 g/ml (20 °C / 68 °F)
Viscosity	5 - 10 mPas (40 °C / 104 °F)

PROPERTIES

APPEARANCE

Tannin Extract is a dark brown liquid.

FLAVOR

The flavors and level of mouthfeel Tannin Extract imparts to beer depends on the quantity and the time of the addition. Late kettle additions can contribute to the hop flavor.

UTILIZATION

The degree of utilization depends on the time of the addition. Very high yields can be achieved with Tannin Extract as it is readily soluble in water.

QUALITY

All Hopsteiner® products are processed in facilities which fulfill internationally recognized quality standards. A monitoring system for residues is in place.

PACKAGING

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

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

- Cans 0.5 - 3.1 kg (DE)
- Drum 200 kg (US / DE)

USAGE

DOSAGE

Tannin Extract is typically added at a rate of 50 - 200 g/hl.

APPLICATION

Tannin Extract additions can take place at any stage of beer production; it is typically added in the brew house / to the wort kettle.

STORAGE

The recommended storage temperature in the original unopened packaging is 1 - 10 °C (34 - 50 °F).

Short-term, transport-related temperature deviations do not affect product quality.

BEST BEFORE DATE

Under the recommended storage conditions, the shelf life from the date of production/ packaging is at least 1 year.

SAFETY

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.

ANALYTICAL METHODS

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

PRODUCT ANALYTICS

Polyphenols

- Analytica-EBC 7.14 (Spectro)

Low molecular weight polyphenols are measured by HPLC using the relevant pure substances as external calibration standards.

TECHNICAL SUPPORT

We are pleased to offer assistance and advice on:

- safety data sheets
- support for brewing trials on a pilot or commercial scale
- analytical services and information about analytical procedures

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

Last updated: 27.11.2023

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