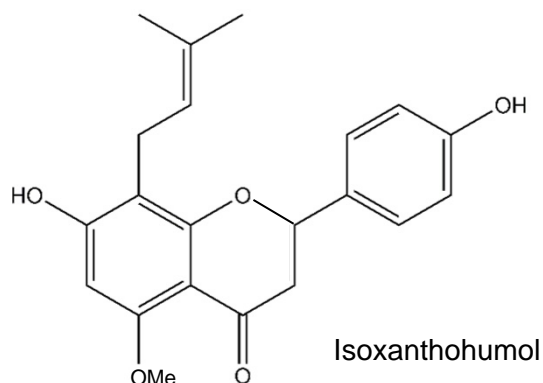
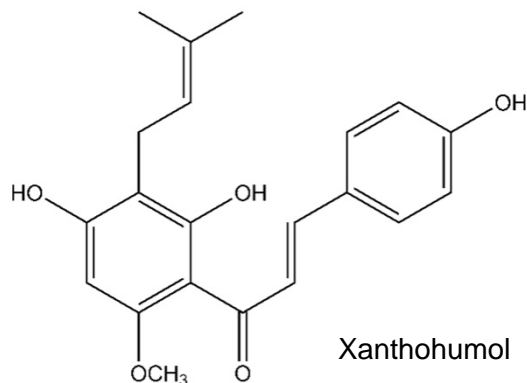


## XanthoFlav™ Extract on Diatomaceous Earth

### ❖ Overview

- **XanthoFlav™ Extract on DE** offers the brewer the option of increasing the content of hard resins including xanthohumol and iso-xanthohumol in beer by a factor 8 to 10.
- **XanthoFlav™ Extract on DE** has a positive impact on beer flavor, especially on bitterness.
- **XanthoFlav™ Extract on DE** provides a basis for the development of new (functional) beverages.
- **XanthoFlav™ Extract on DE** is suitable for additions during wort boiling.



### ❖ Specifications

- Description: olive green powder
- Total resin\*: 15 – 20 %
- Beta acids\*: < 2.0 %
- Alpha acids\*: < 5.0 %
- Iso-alpha acids\*: 0.5 – 2.0 %
- Xanthohumol\*: 1.0 – 2.0 % (without the carrier material DE: 7 – 12 %)
- Density: 550 g/l

\*dependent on variety and crop year

## ❖ Properties

### • Appearance

**XanthoFlav™ Extract on DE** is an olive green powder.

### • Flavor

When added during wort boiling, **XanthoFlav™ Extract on DE** imparts a smooth bitterness, which is mainly attributable to the hard resins.

### • Utilization

**XanthoFlav™ Extract on DE** can be added during wort boiling. When added at the start of boiling – as with alpha acids – the xanthohumol is isomerized to iso-xanthohumol.

### • Quality

All Hopsteiner® products are processed in facilities which fulfill internationally recognized quality standards.

## ❖ Packaging

**XanthoFlav™ Extract on DE** can be packaged in cans and drums according to customer requirements:

Cans: 0.5 to 10 kg  
Drums: 50 and 200 kg

**XanthoFlav™ Extract on DE** can be produced to any alpha acid concentration desired by our customers and packaged in cans (e.g. 450 g of alpha acids per can).

## ❖ Product Use

### • Dosage

Dosage of the **XanthoFlav™ Extract on DE** cannot be calculated on the basis of (iso-) alpha acids, as hard resins provide an important proportion of the bitterness of this product. Therefore, we recommend using the total resin value as a basis for the calculation of **XanthoFlav™ Extract on DE**.

Example:

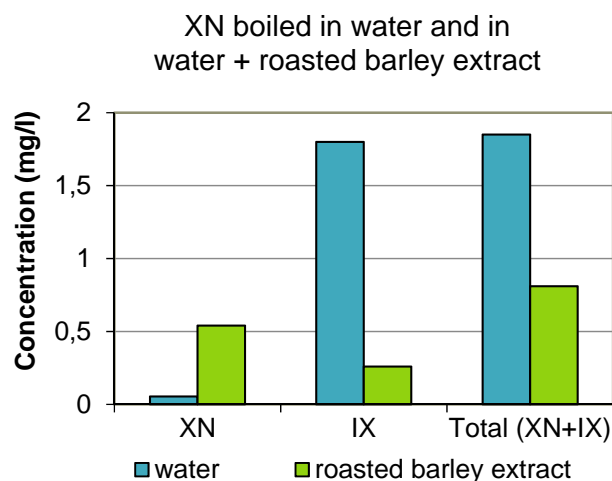
To achieve 1 BU by using **XanthoFlav™ Extract on DE** an average dosage of 1.4 g of total resins per hl is required, respectively 7.0 – 9.4 g/hl of **XanthoFlav™ Extract on DE**.

Note:

Yields of bitter substances and formation of iso-xanthohumol depends considerably on individual conditions at the brewery. Hence, the dosage above only serves as a value for orientation.

### Ideal Usage:

- an addition at or shortly after boiling begins
- avoid stabilization with PVPP



- **Storage**

**XanthoFlav™ Extract on DE** should be stored in sealed containers at temperatures < 10 °C (50 °F). Opened containers should be used within a few days.

- **Best Before Date**

**XanthoFlav™ Extract on DE** is stable for four years from the date it was produced / packaged if stored under the recommended conditions.

- **Safety**

When handling this product, it is advisable to wear a dust mask. If **XanthoFlav™ Extract on DE** gets into the eyes, flush with copious amounts of water until clear and seek medical attention.

For full safety information, please refer to the relevant Hopsteiner® safety data sheet.

## ❖ Analytical Methods

- **Concentration of Bitter Substances**

Xanthohumol, can be measured using the following method:

- HPLC according to Analytica-EBC 7.15 with current international standard

Iso-alpha, alpha and beta acids can be measured using the following methods:

- HPLC according to Analytica-EBC 7.8 or ASBC Hops-16 with the current ICE and ICS standards

Total resin (soft and hard resins) can be measured using the following method:

- Analytica-EBC 7.5

## ❖ Technical Support

We are pleased to offer assistance and advice on the full range of Hopsteiner® 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, 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.

## ❖ Remarks

We take a great deal of care in the preparation of **XanthoFlav™ Extract on DE** from natural raw materials (hops and diatomaceous earth). However, the use or application of **XanthoFlav™ Extract on DE** remains the sole responsibility of the buyer.