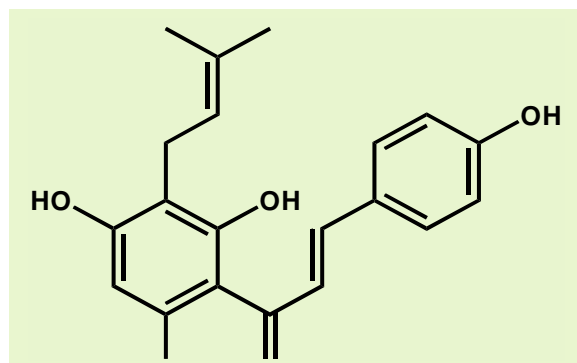


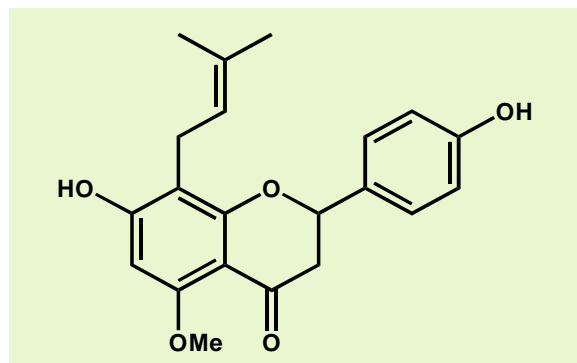
## Xantho-Flav Extract on Diatomaceous Earth

### ❖ Overview

- **Xantho-Flav Extract on D.E.** offers the brewer the possibility to increase the content of iso-xanthohumol in beer by the factor 8 to 10.
- **Xantho-Flav Extract on D.E.** has a positive impact on beer flavor - especially on beer bitterness.
- **Xantho-Flav Extract on D.E.** presents the basis for the development of new (functional) drinks.
- Due to its composition, **Xantho-Flav Extract on D.E.** is suitable for addition during wort boiling.



Xanthohumol



Iso-Xanthohumol

### ❖ Specifications

- **Description:** Olive-green colored powder
- **Total resin:** 20 %
- **Beta acids:** < 0.1 %
- **Iso-alpha-acids:** 0.5 – 2.0 %
- **Alpha-acids:** 0.1 – 2.5 %
- **Xanthohumol:** 1.8 – 2.0 % (9 – 10 % without carrier material)
- **Bulk Density:** 550 g/l

PDS 22/04 issued 03/2009

## ❖ Properties

### ❑ Appearance

Olive-green colored powder.

### ❑ Flavor

When added during wort boiling, **Xantho-Flav Extract on D.E.** provides a smooth bitterness, to a great extent originating from hard resins.

### ❑ Quality

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

## ❖ Packaging

**Xantho-Flav Extract on D.E.** can be packed in various can sizes (up to 10 kg), in 20 kg-pails or in 200 kg-drums.

## ❖ Product Use

**Xantho-Flav Extract on D.E.** can be added during wort boiling. When added at the beginning of the boil - as with alpha acids - the xanthohumol is isomerized into iso-xanthohumol.

### ❑ Dosage

Dosage of the **Xantho-Flav Extract on D.E.** cannot be calculated on the basis of  $\alpha$ -acids, as hard resins provide an important proportion of the bitterness of this product. Therefore we recommend that the total resin value is used as the basis for the calculation of **Xantho-Flav Extract on D.E.** dosage.

### Example

A beer with approx. **20 EBC-BU** is achieved with an average dosage of 28 g of total resins per hl, which means a total quantity of 140 g/hl of **Xantho-Flav Extract on D.E.**

### Indication

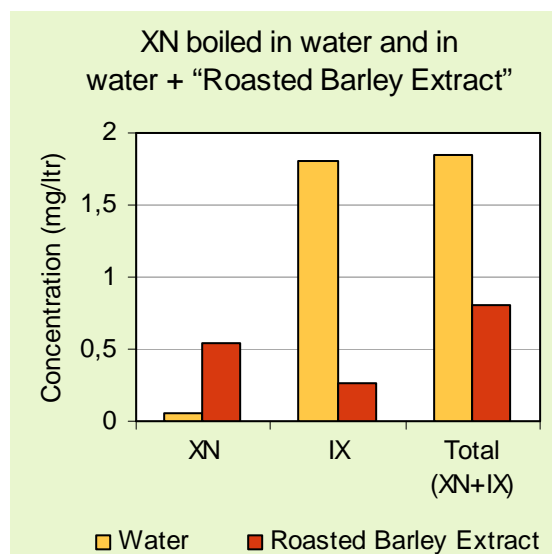
Yields of bitter substances and iso-xanthohumol considerably depend on the individual brewery conditions. Hence the dosage of 28 g total resin per hl can only be considered as an indication. A dosage in the range 25 – 32 g/hl of total resin may be required.

### Ideal usage of Xantho-Flav Extract on D.E.

- Addition at or shortly after beginning of boiling.
- Whirlpool rest to be minimum 30 minutes.
- Fermentation temperature preferably below 10°C.
- Avoid stabilisation with PVPP.

### ❑ Addition

**Xantho-Flav Extract on D.E.** is added to the wort like normal hop extract.



### ❑ Storage

**Xantho-Flav Extract on D.E.** should be stored cool (< 5°C).

## ❑ Best Before

**Xantho-Flav Extract on D.E.** is stable min. 2 years from date of production.

## ❑ Safety

Dust masks are advisable when handling. **Xantho-Flav Extract on D.E.** should be handled like normal hop extract. If **Xantho-Flav Extract on D.E.** gets into the eyes, irrigate thoroughly with water and seek medical attention.

For full safety information please see the relevant Steiner material safety data sheet.

## ❖ Analytical Methods

The following methods are used in the analysis of **Xantho-Flav Extract on D.E.**:

- ❑  $\alpha$ - and residual  $\beta$ -acids are measured by HPLC-method EBC 7.8 using the current ICS-standard.
- ❑ Iso- $\alpha$ -acids by HPLC-method EBC 7.8 using the current ICS-standard.
- ❑ Xanthohumol and iso-xanthohumol are quantified according to HPLC EBC 7.8 using external calibration standards pure XN (370 nm) and IX (290 nm) respectively.

## ❖ Technical Support

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

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

## ❖ Remarks

We take a great deal of care in the preparation of **Xantho-Flav Extract on D.E.** from a natural raw material (hops). However, the use or application of **Xantho-Flav Extract on D.E.** is the sole responsibility of the buyer.

PDS 22/04 issued 03/2009