



HVG – CO₂ EXTRACT

PRODUCT SPECIFICATION

MANUFACTURER

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SUPPLIER

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CUSTOMS TARIFF CODE

13021300 (Extracts of hops)

MEANING OF CODE EXPLAINED BY EXAMPLE

- **09 DE 2020:**
09 = N° of certification center according to “List of hop certification centers and their code numbers”; Article 24, Regulation (EC) No 1850/2006; DE: Germany; Harvest 2014
- **HHMG:** Origin = Hallertau; Variety = Hallertauer Magnum.
Name of the variety according to the “List of world hop varieties of the International Hop Growers` Convention (IHGC)” in its current version
- **VA 20-263:** Production Year 2020; Batch number 263.
With this printed code we guarantee that the product is fully traceable back to the farmer’s leaf hops lots used for its production.

QUALITY AND FOOD SAFETY

- HVG e.G. is certified according DIN ISO 9001:2015 since the year 2000 and HACCP
- Nateco2 is certified according DIN ISO 9001:2015, DIN ISO 14001:2015, DIN ISO 22000:2018 and HACCP
- Hopfenveredlung St. Johann GmbH is certified according DIN ISO 9001:2015; DIN ISO 14001:2015, 22000:2005 and HACCP



PRODUCT PROPERTIES

HVG – CO₂ EXTRACT contains the natural relevant bitter and aroma compounds of the flower of the hops plant (*Humulus Lupulus*) in their natural chemical unchanged form. Hop polyphenols are hardly dissolved by CO₂ extraction.

PHYSICAL-CHEMICAL DETAILS

Description	Unit	Value
α -acids (resins)	% w/w*	up to 65
β – acids (resins)	% w/w*	up to 45
Essential oils	ml/ 100 g*	up to 12
Appearance	-	Viscous liquid. Color dependent on the hop variety from yellow-brownish to dark green.
Density	g/l	900 – 1,100
Viscosity	Pa*s **	2.5 – 4.0

*depending on hop variety and crop year

**Fluidity depends on the variety, crop year as well as on the temperature of the extract. At about 40 °C the viscosity measured with Haake VT 500 according to DIN 53019 Eta

PACKING

HVG – CO₂ EXTRACT is packed into cans lined with high quality food grade lining from 0,5 kg to 4,0 kg extract weight. Larger packing volumes, e.g. 200 litre standard or stainless steel drums, are available for use with automatic dosing units.

PRODUCTION PROCESS AND PROCESS SPECIFICATIONS

The process of gaining extract out of hops is described in in the book: Hops - Their Cultivation, Composition and Usage; publisher Hans Carl, 09/2014, ISBN: 978-3-418-00823-3.

PRODUCT USE

HVG – CO₂ EXTRACT can be used as single hop addition in hot wort or in combination with HVG Pellets Type 90 or Type 45. In order to achieve the isomerisation of alpha- to iso-alpha acids, hopping with *EXTRACT* takes place in the wort kettle at beginning of boil. Isomerisation rate of the alpha acids as early addition to the kettle is in the range of 25% to 45%, typically 35%.

For further information please visit: www.hvg-germany.de

STORAGE / STABILITY

Out of quality reasons HVG – CO₂ EXTRACT should be used as soon as possible after opening the packaging. Hop constituents oxidise in contact with air, which leads e.g., to a deterioration of bitter acids and essential oils. Recommended storing conditions to protect hop constituents:



Temperature	Stability
At 10 – 15 °C (50 – 59 °F)	up to 5 years (in unopened, original packages)
At 0 – 5 °C (32 – 41 °F)	up to 10 years (in unopened, original packages)

Cardboard boxes may deteriorate in strength and become deformed due to factors in the storage location such as humidity, multilayer stacking, and storage duration. Note that the maximum number of cardboard boxes that may be stacked safely differs considerably depending on the storage conditions.

HEALTH AND SAFETY

Use protective mask where dust is generated. See MSDS.

ANALYTICAL METHODS

For HVG – CO₂ EXTRACT the following analysis methods can be applied:

Method	Usage
EBC 7.6	Bitter Substances in hop extracts: Lead Conductance Value and Total Resins, Soft Resin and Hard Resin
EBC 7.7	Alpha and beta acids in Hops and Hop Products by HPLC (ASBC Hops-14)
ASBC	Hops-6 Spectrophotometric method
EBC 7.10 & ASBC Hops-13	Hop oil concentration

OTHER INFORMATION

- HVG – CO₂ EXTRACT is a natural product and is not treated with any kind of artificial additives.
- The product is accompanied by the Phytosanitary Certificate, which states that the product has been produced according to the national health regulations.
- The above information is based on the current state of knowledge of our product at the time of publication and is furnished without warranty of any kind.
- The user must satisfy himself that the product is entirely suitable for his purposes.