

FLAVEX Naturextrakte GmbH

Your contact for supercritical botanical extracts

By Dr. K.-W. Quirin

FLAVEX is an independent company founded in 1986 and specialised exclusively in supercritical botanical extracts. All products are developed, produced and certified at the company's site in Germany, near the borders of France and BeNeLux. FLAVEX is leading supplier of the food, cosmetic, perfumery, aromatherapy and nutraceutical industries since 25 years with innovative high quality flavours, fragrances and bio-active ingredients, according to the credo knowledge creates innovation and innovation creates markets. All standard products are supplied short term from stock.

Extraction method

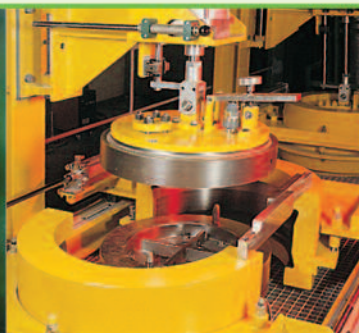
Supercritical extraction is a gentle, natural and clean method working with pressurised carbon dioxide, a Generally Recognised As Safe (GRAS approved) solvent for lipophilic plant ingredients. There are not any waste streams and emissions involved in this eco-friendly technology. The high pressure process eliminates germ count and solvent residue problems, works without the stress of high temperatures and under exclusion of oxygen. This is a precondition to preserve valuable and sensitive botanical constituents. The method



is also conforming to criteria of organic production. FLAVEX is certified according to the EEC organic guideline 834/2007 and according to the USDA-NOP standard and offers, besides conventional products, a whole range of organic certified extracts.

Extraction equipment

FLAVEX treats on 4000 square meters office, lab, production and storage space about 1000 tons of different plant materials per year. The company operates five CO₂-extraction plants on lab, pilot and production scale. Two of three production units are designed for a working pressure of up to 500 bars. Besides solids also liquid input materials can be extracted. All CO₂-extraction plants are constantly optimised, equipped with state of the art control systems and best suitable for resolving critical separation problems, providing reproducible results and validated products.



The equipment offers the possibility to work with ethanol as entrainer if needed. A patented counter current washing system using liquid CO₂ is available as additional separation step. The system allows improved recovery of the most volatile essential oil components which is decisive if small amounts of volatiles have to be separated from a matrix.

Product quality

Besides the technological expertise in high pressure plant design and operation FLAVEX has long term experience in selecting high grade botanicals and comprehensive know-how in phytochemistry and analysis of extracts using up-to-date instrumentation. Detailed and traceable documentation of all relevant process steps from raw material



analysis and conditioning right up to batch related certificates of finished products is a guarantee for the purity, consistency and authenticity of all FLAVEX extracts. Securing high quality is the company's mission and therefore all departments are certified according to the ISO 9001:2008 standard. Important is as well a sustainable mode of operation respecting the environment and dealing with resources in a responsible way according to ISO 14001:2004 certification.



Quality recognition

The company's competence and continuous efforts in research and development and its

pioneering, advanced extraction technology have been acknowledged by the Frost & Sullivan Technology Innovation Award 2005. According to Frost & Sullivan FLAVEX has earned over the years areputation of producing finest CO₂-extracts. An important factor which has contributed to the company's success is its excellent infrastructure facilities which have continuously supported major technological break throughs and various product innovations. Other decisive factors for success are the company's foundation on strict quality measures, the engagement in research and development efforts and the detailed documentation of products and procedures.

Product examples

FLAVEX offers various specialty oils, extracts with flavouring and olfactive effects, antioxidants and extracts with antimicrobial, anti-inflammatory or other bio-active property from almost 100 different botanicals as standard products. Some important products to be mentioned are different Rosemary and Sage antioxidants. Active ingredients are diterpene phenols with carnosic acid as the most important marker. They not only delay oxidation of fatty oils, essential oils and carotenes in food but have also broad spectrum anti-microbial activity. Besides they are used in supplements fighting against free radicals and in cosmetics as anti-aging and anti-inflammatory ingredients.

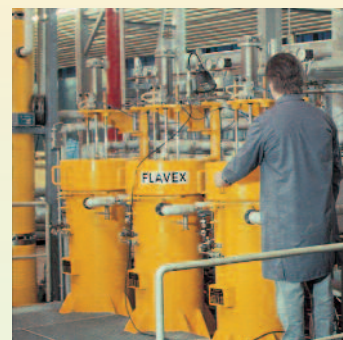
Other multi-purpose extracts are derived from Ginger root. There is a selective extract representing the volatile flavour, suitable not only for food application but also a hot ingredient in fine fragrances. The Ginger total extract represents both, the flavour and pungent components of the botanical starting material in concentrated form, interesting for exotic savoury products, meat and dressings but also beneficial in natural remedies and even applied in cosmetics. Finally there is a third extract enriched in pungent components with more than 40 % gingerol content.



All extracts are presented on the FLAVEX website together with their specification. We are pleased to send more information and samples on request. FLAVEX CO₂-extracts provide a competitive advantage and make your products simply better.

Customer focus

It is our commitment to have a constructive working relationship of trust with industrial clients worldwide, individual and renowned ones. The qualified and professional staffs like to be challenged and are motivated to act not only as supplier but are engaged to be a partner, adviser and solver of problems.



FLAVEX[®]
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