FermtekTM

Fermentation by Nature





CONTENTS

About Us

HSF--Leading Innovator in Functional Ingredients

HSF--Factories and R&D Centers

Products and Service

Fermtek™-- Customized Fermentation for Your Brand

Fermtek™-- R&D Leader

Fermtek™-- Core Strengths

DeePPD™ Services

Quality Control System



History

Early 2012, HSF's laboratory set up to develop functional oil and cut-edge technology on microbiology Phytosterol esters put into production

Breakth of micro

About Us

HSF--Leading Innovator in Functional Ingredients

Starting with manufacturing natural vitamin E, phytosterol and micro-encapsulated powders, HSF has created a rapid and healthy growth in global reputation and technology accumulation, with the help of more than 10 years' continuous technology innovation on fermentation, HSF introduces branded FERMTEK™ series products to enrich its products lines, creating more opportunities with our global partners.

Strong R&D platform and Technical staff

Years of Successful Cases for Partnership Development High-efficiency management team Open-minded and Win-Win partnerships philosophy

The annual sales of HSF exceeded 200 million yuan; Approved with the Research Center on National Key Programs; HSF (Yangling) Health Industrial Park new factory was established The annual sales of HSF exceeded 300 million yuan; Two national key R & D plans; Shaanxi Gazelle Company (fast-growing entity of agricultural sci-tech)

2019

2020

2021

2022

rough in optimization bial strain Second prize of Shaanxi science and Technology Award "Specialization, refinement, characteristics and novelty" small and medium-sized enterprises in Shaanxi Province

Fermtek™ Completion of fermentation production line; The annual sales of HSF exceeded 400 million yuan

Fermtek™

HSF-Factories and R&D Centers











Two individual fermentation and extracting production lines

Since 2012, with 10 years' continuous R&D and optimization of fermentation & extracting technology, HSF invested 5,000,000 USD and 8,000,000 USD in its first and second industries zone in city of Yangling. With the two individual manufacturing sites, FermtekTM can provide our customers options with small, mid-sized and large-scale production capacity, ranging from one –stop service.

















Four laboratories

HSF Biotech pays great attention to original research and technical innovation with proprietary intellectual property rights. In order to accelerate the research and development of new products, the company has strengthened the cooperation with research institutes. The company established Shaanxi Biological Transformation Laboratory together with the Food College of Shaanxi Normal University. now we has four laboratores:

- I. Microbial research laboratories: strain screening, mutagenesis, stimulation of strain potential.
- II. Biotransformation laboratory: study of strain metabolites and enzyme activities to improve product yields.
- III. Fermentation laboratory: optimization of fermentation conditions, fermentation step by step expansion of suitable production.
- IV. Extraction and separation laboratory: Study the specific extraction conditions based on product characteristics to improve yield and reduce costs.

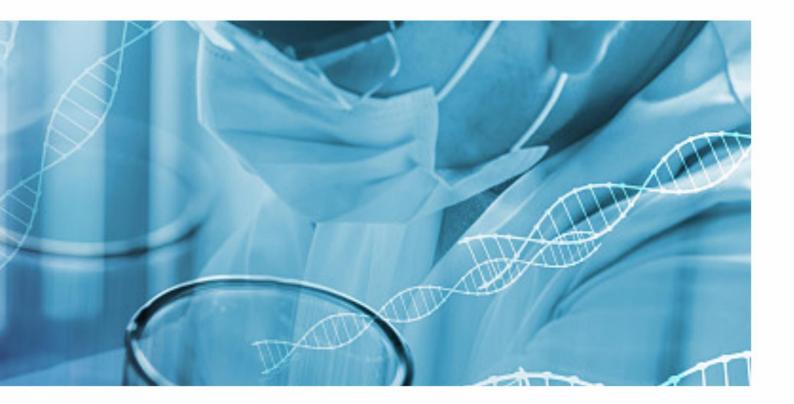
Product and Service



Fermtek[™] Customized Fermentation for Your Brand

With the help of more than 10 years'continuous technology innovation on fermentation, HSF introduces branded FERMTEK™ series products to enrich its products lines, creating more opportunities with our global partners.

Fermtek™ can provide our customers options with small, mid-sized and large-scale production capacity, ranging from natural Beta-Carotenoids, DHA/ARA, Co-enzyme Q10, and vast variety of customized and directional fermentation services.





FermAlge™

Fermtek™Product Specification

| Product | Specification | Packaging | Application |
|---|---------------|---------------------------|---|
| DHA Oil (Docose Hexaenoic Acid Oil) | 30%/40%/50% | 190kg/drum, Customized | Dietary supplements, food&beverages, animalfeed etc. |
| DHA Oil Powder (Docose HexaenoicAcid Oil Powder) | 5%/10% | 20kg/drum, Customized | Infant formulas, Dietarysupplements, food&beverages, animal feed etc. |
| ARA Oil (Arachidonic Acid Oil) | 30%/40% | 190kg/drum, Customized | Dietary supplements, food&beverages, animal feed etc. |
| ARA Oil Powder (Arachidonic Acid Oil Powder) | 5%/10% | 20kg/drum, Customized | Infant formulas, Dietarysupplements, food&beverages, animal feed etc. |

CoenPrime[™]

Fermtek™Product Specification

| Product | Specification | Packaging | Application |
|-------------------------|------------------------------|--------------------------|---|
| Coenzyme Q10 Powder 10% | Cold Water Dispersible (CWD) | 20kg/drum, Customized | Dietary supplements,food&beverages, cosmetics, animal feed etc. |
| Coenzyme Q10 Powder 10% | Granular | 20kg/drum, Customized | Dietary supplements, tablets |
| Coenzyme Q10 Powder 20% | Cold Water Dispersible (CWD) | 20kg/drum, Customized | Dietary supplements,food&beverages, cosmetics, animal feed etc. |
| Coenzyme Q10 Powder 40% | Cold Water Dispersible (CWD) | 20kg/drum, Customized | Dietary supplements,food&beverages, cosmetics, animal feed etc. |
| Coenzyme Q10 Powder 98% | Crystalline Powder | 5kg/tin, Customized | Dietary supplements, cosmetics, animal feed etc. |

Fermtek™Product Specification

NutraColour™

| Product | Specification | Туре | Application |
|--|---------------|----------------------------------|---|
| β-Carotene Powder | 96% | Fine Powder | Dietary supplements, food&beverages, animal feed etc. |
| β-Carotene Oil Suspension | 20%/30% | Oil Suspension | Softgel Capsules, Oily Form Products |
| Micro-encapsulated β-Carotene Powder | 10%/20% | Cold Water Soluble & Beadlets | Solid beverage, Tablets, Hard Capsules |
| Lycopene Powder | 96% | Fine Powder | Dietary supplements, food&beverages, animal feed etc. |
| Lycopene Oil Suspension | 6%/10% | Oil Suspension | Softgel Capsules, Oily Form Products |
| Micro-encapsulated Lycopene Powder | 1%/5% | Cold Water Soluble & Beadlets | Solid beverage, Tablets, Hard Capsules |
| Astaxanthin Oil Suspension | 5%/10% | Oil Suspension | Softgel Capsules, Oily Form Products |
| Micro-encapsulated Astaxanthin Powder | 1%/2% | Cold Water Soluble & Beadlets | Solid beverage, Tablets, Hard Capsules |



Fermtek™ Customized

FermHerb™Series Ingredients

Fermented Berry Mix

Fermented Astragalus

Fermented Ginger

Fermented Fruits & Vegetables

Fermented Green Tea Extract

Fermented Ashwagandha

Fermented Red yeast rice

Fermented Spirulina

Customized combination available for various herbs, vegetable or fruits with safe and registeredmicrobial strains

FermHerb™ utilizes state-of-the-art fermentation technology with its own microbial strains like probiotics to increase the bioavailability and absorptivity, pre-digest the functional ingredients for human bodies.

Interested in partnering with us in developing your customized fermentation products?

You need try our DeePPD™ services, which means the deep product partnership development, sharing the opportunities created together with you.

Just leave your ideas and concepts to us!

Fermtek™

Head of R&D Department of HSF Biotech



Dr.Meng

Titles:

- Professor of the College of Food Engineering and Nutritional Science of Shaanxi Normal University
- Deputy Director of the High Value-added Fruit Research Center in Western China, Ministry of Education
- Secretary-General of Shaanxi Food Science and Technology Association
- · Co-founder and CTO of HSF Biotech.

Personal Honors:

Dr. Meng is Ph.D. at China Agricultural University, postdoctoral at Beijing University of Chemical Technology, and senior visiting scholar at Washington State University.

- · Till now, Dr. Meng has been engaged in:
- 2 general projects of the National Natural Science Foundation of China, 1 of the 863 Project of Ministry of Science and Technology,
- · 2 Sub-project of National Key Research and Development Project
- · Numbers of scientific research projects of Doctoral Funds of the
- Ministry of Education and Shaanxi Science and Technology Department

Academic Achievements:

- Published more than 90 papers, including 30+ SCI papers
- Obtained 53 patents of invention
- · Second and Third Sci-tech Awards of Shaanxi Province
- · Co-edited two monographs



Scientific research advantages

40 + Technical Staff 50 + Patents of Invention 5 + Cooperation with well-known universities

Technical advantages

Fully-controlled fermentation and
extracting process
Two individual fermentation and
extracting production lines
Free microbial fermentation of Quality
assurance systems (like cGMP,
HACCP, FSCC22000 etc.)

Innovation advantages

4 R&D Locations
Vast varieties and registered strains
bank
120 + Microbial Strains Bank
Advanced laboratories that utilize
state-of-the-art equipment

Fermtek™

DeePPD™ Services

Fermtek™Provides one-step service from **development** to **products**

To provide better customized services, HSF has formulated a perfect cooperation process for Fermtek™, You can be involved in the entire process of product development



Four Models for Partnerships Product Development



Contract Manufacturing



Customized Formula and Specifications



Blend and Premix



Patenting and Functional Evaluation



and pilot scale

samples,contrast

samples and related

evaluation reports

marketing

customize a product

solutions

feedbacks from

samples until you are

satisfactory finally

functional evaluation.

sign agreements with

HSF on confidentiality

and cooperation

be open and

transparent during the

entire progress to you



Quality Control System

We have been approved by many cases of on-site audit on facilities and documentation from world well-known brands:

- HSF have the international advanced management concept of fermentation workshop and have built a strict quality management system.
 (cGMP,FSCC22000,ISO9001,Halal,Kosher,SC certification).
 Guarantee aseptic environment, product quality and stability between roduction batches to meet customers' requirements
- HSF has registered Sedex and Ecovadis with high score.

for product safety and high quality.

HSF maintains a healthy sustainability and social
 .responsibility, through our commitment to the high-quality
 management standards, including compliance and safety, we
 provide an unmatched level of certainty to our customers.























ecovadis



Customized Fermentation for Your Brand

