

# **Fermented Foods and Chemicals**

**(Fermentation of Distillers Yeast, Brewers Yeast, Wine Yeasts, Bakers Yeast, Lactic Acid, Citric Acid, Actinomycete Protease, Bacterial Extracellular Enzymes, Bread, Vegetables)**

# Introduction

Fermentation is one of the oldest methods of processing food into a form that is suitable for preservation. Fermentation of foods is the controlled action of microorganisms to alter the texture of food, to preserve (by the production of acids and alcohols) and to produce characteristic flavors and aromas. Food fermentation serves five main purposes: to enrich the diet through development of a diversity of flavors, aromas, and textures in food substrates; to preserve substantial amounts of food through lactic acid, alcohol, acetic acid, and alkaline fermentations; to enrich food substrates with protein, essential amino acids, and vitamins; to eliminate antinutrients; and to reduce cooking time and the associated use of fuel.

**Fermentation in food processing is the process of converting carbohydrates to alcohol or organic acids using microorganisms—yeasts or bacteria—under anaerobic conditions. Fermentation usually implies that the action of microorganisms is desired. The term fermentation sometimes refers specifically to the chemical conversion of sugars into ethanol, producing alcoholic drinks such as wine, beer, and cider. Fermented foods have a specific role to play in health and disease. Fermentation should be used wisely as a treatment that enhances nutritive value and taste of food along with formation of lactic acid which feeds and nourishes the friendly gut bacteria producing the much valued probiotic effect.**

**Fermentation chemicals are used as process initiators in several applications. Fermentation chemicals help in speeding the process reactions and saves time, energy and process cost. Fermentation chemicals are widely used in industries across the globe, owing to their natural structure, low cost and better outputs. The major product class of fermentation chemicals consists of alcohols, enzymes and organic acids. Fermentation chemicals are utilized in variety of applications in a wide range of chemical processes in industries such as alcohol industry, pharmaceutical industry, food and beverages industry, chemical industry, textile industry and rubber industry among others.**

## **Yeast Fermentation**

**Yeasts can grow in the presence or absence of air. Yeasts can be found everywhere. Yeast is used in the production of bread, beer, cider and wine. Yeasts are single-celled organisms that tragically reproduce asexually. They are generally larger than bacteria. The cell wall allows oxygen to pass inwards and waste products such as alcohol and carbon dioxide to pass out through it.**

**The process of distillation does not make alcohol, it only concentrates alcohol to increase the proof. Alcohol is made during the fermentation process, and fermentation is made possible by combining two critical ingredients: sugar and yeast. So without yeast, there would be no beer, there would be no wine, and there would be no whiskey.**

**Baker's yeast is the common name for the strains of yeast commonly used as a leavening agent in baking bread and bakery products, where it converts the fermentable sugars present in the dough into carbon dioxide and ethanol. Baker's yeast is of the species *Saccharomyces cerevisiae*, which is the same species (but a different strain) commonly used in alcoholic fermentation, which is called brewer's yeast. Baker's yeast is also a single-cell microorganism found on and around the human body.**

## **Market Demand**

**The health benefits of fermented foods are being reported on increasingly, with Indian people. Consumption of fermented foods can be traced back thousands of years, if not longer, but it seems in 2016, maintained by new product developments and consumers' heightened awareness of the negative perceptions of processed foods, fermented foods are to establish themselves as a major food trend. Food Ingredients First explores the changes in interest of fermented foods.**

**Increasing demand for specialized flavors and consumers' desire to connect their food to a time and place have paved the way for a reintroduction of specialty fermented foods in the market, both retail and foodservice. Fermented Foods market brings in a large diversity of new foods and flavors thereby impacting the food preferences of the consumers.**



**Global fermented foods market is expected to grow significantly during the forecast period, driven majorly by the product innovation, taste and flavor enrichments, and growing consumer awareness about healthy diets.**

**Fermented foods can be preserved for a long period of time, along with retaining its nutrient value and taste which further boosts up the global fermented foods market. Addition of healthy foods in consumer's diet can get expensive, but with inclusion of fermented foods in diets are budget friendly preparation. Owing to the multiple benefits such as high nutrition content, rich taste and flavor, ability to retain its quality for a long time and cost-effective diet inclusion, global fermented foods market is expected to witness an escalating demand over the forecast period. The fermented ingredients market is projected to reach USD 35.6 billion by 2022 at a CAGR of 9.0% from 2017.**



**The global fermentation chemicals market is expected to reach USD 81.14 billion by 2024, owing to the major driving forces such as increasing applications of fermentation chemicals in the pharmaceutical, cosmetic and alcohol industries. Growing demand from the alcohol industry, rising consumption in the cosmetics and pharmaceutical industry, increasing demand for natural and organic food, increasing awareness about food preservations and high demand for antibiotics are the major drivers for the proliferation of the market for fermentation chemicals. Conversely, factors inhibiting the market growth are fluctuating production due to limited availability of raw material, high production cost, complex manufacturing process and limited storability of ethanol as it can lead to a fire.**

**This book contains sterilization, fermentation processes, aeration and agitation, use of yeast, yeast production, fermentation raw materials, production of bacterial enzymes, bread making methods, effluent treatment, production of actinomycete protease, lactic acid, citric acid. This handbook will be very helpful to its readers who are just beginners in this field and will also find useful for upcoming entrepreneurs, existing industries, food technologist, technical institution etc.**

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# Tags

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## OUR CLIENTS

Our inexhaustible Client list includes public-sector companies, Corporate Houses, Government undertaking, individual entrepreneurs, NRI, Foreign investors, non-profit organizations and educational institutions from all parts of the World. The list is just a glimpse of our esteemed & satisfied Clients.

**Click here to take a look**

**<https://goo.gl/G3ICjV>**



# Free Instant Online Project Identification & Selection Search Facility

Selection process starts with the generation of a product idea. In order to select the most promising project, the entrepreneur needs to generate a few ideas about the possible projects.

Here's we offer a best and easiest way for every entrepreneur to searching criteria of projects on our website [www.entrepreneurindia.co](http://www.entrepreneurindia.co) that is "Instant Online Project Identification and Selection"

NPCS Team has simplified the process for you by providing a "Free Instant Online Project Identification & Selection" search facility to identify projects based on multiple search parameters related to project costs namely: Plant & Machinery Cost, Total Capital Investment, Cost of the project, Rate of Return% (ROR) and Break Even Point % (BEP). You can sort the projects on the basis of mentioned pointers and identify a suitable project matching your investment requisites.

**Click here to go**

<http://www.entrepreneurindia.co/project-identification>

# Contact us

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# ***NIIR PROJECT CONSULTANCY SERVICES***

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An ISO 9001:2008 Company

# Who are we?

- *One of the leading reliable names in industrial world for providing the most comprehensive technical consulting services*
- *We adopt a systematic approach to provide the strong fundamental support needed for the effective delivery of services to our Clients' in India & abroad*

*We at NPCS want to grow with you by providing solutions scale to suit your new operations and help you reduce risk and give a high return on application investments. We have successfully achieved top-notch quality standards with a high level of customer appreciation resulting in long lasting relation and large amount of referral work through technological breakthrough and innovative concepts. A large number of our Indian, Overseas and NRI Clients have appreciated our expertise for excellence which speaks volumes about our commitment and dedication to every client's success.*



*We bring deep, functional expertise, but are known for our holistic perspective: we capture value across boundaries and between the silos of any organization. We have proven a multiplier effect from optimizing the sum of the parts, not just the individual pieces. We actively encourage a culture of innovation, which facilitates the development of new technologies and ensures a high quality product.*



# What do we offer?

- *Project Identification*
- *Detailed Project Reports/Pre-feasibility Reports*
- *Business Plan*
- *Industry Trends*
- *Market Research Reports*
- *Technology Books and Directory*
- *Databases on CD-ROM*
- *Laboratory Testing Services*
- *Turnkey Project Consultancy/Solutions*
- *Entrepreneur India (An Industrial Monthly Journal)*



## How are we different ?

- *We have two decades long experience in project consultancy and market research field*
- *We empower our customers with the prerequisite know-how to take sound business decisions*
- *We help catalyze business growth by providing distinctive and profound market analysis*
- *We serve a wide array of customers , from individual entrepreneurs to Corporations and Foreign Investors*
- *We use authentic & reliable sources to ensure business precision*

# Our Approach

Requirement collection

Thorough analysis of the project

Economic feasibility study of the Project

Market potential survey/research

Report Compilation

# Who do we serve?

- *Public-sector Companies*
- *Corporates*
- *Government Undertakings*
- *Individual Entrepreneurs*
- *NRI's*
- *Foreign Investors*
- *Non-profit Organizations, NBFC's*
- *Educational Institutions*
- *Embassies & Consulates*
- *Consultancies*
- *Industry / trade associations*

# Sectors We Cover

- *Ayurvedic And Herbal Medicines, Herbal Cosmetics*
- *Alcoholic And Non Alcoholic Beverages, Drinks*
- *Adhesives, Industrial Adhesive, Sealants, Glues, Gum & Resin*
- *Activated Carbon & Activated Charcoal*
- *Aluminium And Aluminium Extrusion Profiles & Sections,*
- *Bio-fertilizers And Biotechnology*
- *Breakfast Snacks And Cereal Food*
- *Bicycle Tyres & Tubes, Bicycle Parts, Bicycle Assembling*

- *Bamboo And Cane Based Projects*
- *Building Materials And Construction Projects*
- *Biodegradable & Bioplastic Based Projects*
- *Chemicals (Organic And Inorganic)*
- *Confectionery, Bakery/Baking And Other Food*
- *Cereal Processing*
- *Coconut And Coconut Based Products*
- *Cold Storage For Fruits & Vegetables*
- *Coal & Coal Byproduct*

- *Copper & Copper Based Projects*
- *Dairy/Milk Processing*
- *Disinfectants, Pesticides, Insecticides, Mosquito Repellents,*
- *Electrical, Electronic And Computer based Projects*
- *Essential Oils, Oils & Fats And Allied*
- *Engineering Goods*
- *Fibre Glass & Float Glass*
- *Fast Moving Consumer Goods*
- *Food, Bakery, Agro Processing*

## Sectors We Cover *Cont...*

- *Fruits & Vegetables Processing*
- *Ferro Alloys Based Projects*
- *Fertilizers & Biofertilizers*
- *Ginger & Ginger Based Projects*
- *Herbs And Medicinal Cultivation And Jatropha (Biofuel)*
- *Hotel & Hospitability Projects*
- *Hospital Based Projects*
- *Herbal Based Projects*
- *Inks, Stationery And Export Industries*

## Sectors We Cover *Cont...*

- *Infrastructure Projects*
- *Jute & Jute Based Products*
- *Leather And Leather Based Projects*
- *Leisure & Entertainment Based Projects*
- *Livestock Farming Of Birds & Animals*
- *Minerals And Minerals*
- *Maize Processing(Wet Milling) & Maize Based Projects*
- *Medical Plastics, Disposables Plastic Syringe, Blood Bags*
- *Organic Farming, Neem Products Etc.*



## Sectors We Cover *Cont...*

- *Paints, Pigments, Varnish & Lacquer*
- *Paper And Paper Board, Paper Recycling Projects*
- *Printing Inks*
- *Packaging Based Projects*
- *Perfumes, Cosmetics And Flavours*
- *Power Generation Based Projects & Renewable Energy Based Projects*
- *Pharmaceuticals And Drugs*
- *Plantations, Farming And Cultivations*
- *Plastic Film, Plastic Waste And Plastic Compounds*
- *Plastic, PVC, PET, HDPE, LDPE Etc.*

## Sectors We Cover *Cont...*

- *Potato And Potato Based Projects*
- *Printing And Packaging*
- *Real Estate, Leisure And Hospitality*
- *Rubber And Rubber Products*
- *Soaps And Detergents*
- *Stationary Products*
- *Spices And Snacks Food*
- *Steel & Steel Products*
- *Textile Auxiliary And Chemicals*

## Sectors We Cover *Cont...*

- *Township & Residential Complex*
- *Textiles And Readymade Garments*
- *Waste Management & Recycling*
- *Wood & Wood Products*
- *Water Industry(Packaged Drinking Water & Mineral Water)*
- *Wire & Cable*

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