

EURASYP

European Association for
Specialty Yeast Products

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EURaSYP Position on the status of Yeast Extract EWGL-20-06

Summary

Yeast extract has a rich and complex taste. When used for its flavouring properties, it can be labelled as “natural flavouring” or more specifically “yeast extract”. It can also be used as an ingredient and in this case is labelled as “yeast extract”.

Yeast extract mainly consists of proteins (amino acids and peptides), minerals and carbohydrates. It is composed of various amino acids amongst them glutamic acid. Traditional yeast extract contains between 2% w/w and 12%w/w glutamic acid.

Introduction to Yeast Extract and its specificities

Yeast extract is a food ingredient composed of a variety of amino acids, carbohydrates, vitamins and minerals and is rich in high-quality proteins. It is obtained through traditional food processing from bakers' or brewers' yeast.

Yeast extracts have been used as food ingredients for more than 75 years in a wide range of foods. Moreover, the starting material of yeast extract, living yeast cells, has been used for thousands of years in the production of bread, beer and wine. Just like taste providers such as herbs, spices and condiments like soy sauce, yeast extract is used in many soups, sauces, bouillons, processed meats, ready-to-eat meals, savoury snacks and yeast spreads for its rich and complex taste. In fact, it could be considered as a kind of “bouillon from yeast cells”.

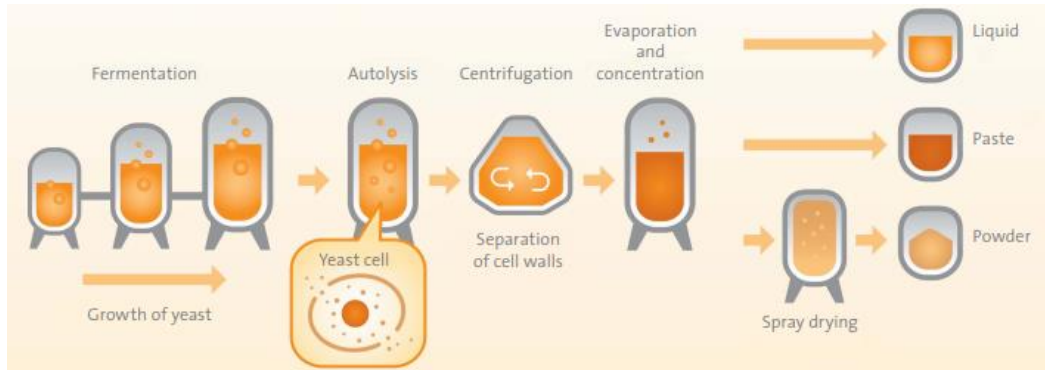
Foods become tastier and full of flavour when yeast extract is used, even at very small quantities. Typical dose levels of yeast extracts in final foods for consumption are 0.5-2%. Special benefit of yeast extracts is their ability to make the taste of low salt and vegetarian products more attractive.

Production of Yeast Extract

Yeast extract is made from fresh yeast, the same as the yeast used for making bread, beer and wine. The yeast cells are heated and treated with enzymes. As a result, the proteins and other constituents present in the yeast cell are broken down and the yeast cell wall becomes permeable. After this process the soluble parts of the yeast, being the yeast extract, are separated from the insoluble yeast cell walls. The yeast extract is further concentrated to become a yeast extract product in liquid, paste or powder form.

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Yeast Extract regulatory status

The designation of yeast extract in the list of ingredients of foodstuffs to which it is added depends on the function of yeast extract in this foodstuff. It can be considered either as a food ingredient with nutritional properties or more specifically as a flavouring.

If yeast extract is added to a food product to impart odour and/or taste, it falls within the scope of the EU flavouring regulation ((EC) N°1334/2008). Yeast extract is obtained by means of traditional, physical and enzymatic processes from yeast cells and it is not intended to be consumed as such therefore it meets the definition of a “flavouring preparation” (Art.3.2(d)(i)). Yeast extract, as a Flavouring preparation can be declared “natural flavouring” or “yeast extract” as a more specific name or description of the flavouring (article 15).

If yeast extract is used as an ingredient, then it will need to be declared on the label of food products according to the labelling rules as laid down in Regulation (EU) N° 1169/2011. In such cases “yeast extract” is a generally accepted customary name that can be used in the ingredient list of foods ((EU) N° 1169/2011, Art.2.2(o), Art.17).

Composition of Yeast Extract and its glutamic acid content

The major part of yeast extracts (typically 69%w/w) consists of proteins in the form of both amino acids and peptides. Other components of yeast extract are minerals (typically 12%w/w) and carbohydrates (typically 9% w/w polysaccharides).

The most abundant amino acid naturally occurring in yeast is glutamic acid. Glutamic acid (Glu) is 1 of the 20 natural amino acids which occurs in almost every living cell from plants, animals, humans and microorganisms as building block of proteins. It is the most abundant amino acid in nature and is found in every food. It naturally occurs in higher concentrations in tomatoes, cheese, cured ham, fish, soy sauce ...

Traditional yeast extracts contain glutamic acid naturally between 2% w/w and 12% w/w (as free glutamic acid), the typical concentration being 4.8% glutamic acid.

Eurasyp position on glutamic acid content in Yeast Extract

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Traditional yeast extracts, when produced as described above, all occur within a range between 2% w/w and 12% w/w of free glutamic acid. This was confirmed by analysing a collection of traditional yeast extracts¹ from EURaSYP members on the free glutamic acid content.

Yeast extracts with glutamic acid levels in this range have a very pronounced savoury, meaty, vegetal taste of their own, donating complex and rich taste to food. Therefore, these yeast extracts cannot be compared with the food additive monosodium glutamate which sole technological function is that of a flavour enhancer.

Moreover yeast-based products with glutamic acid content above 12% w/w are considered by Eurasymp members as not representative of traditional yeast extract and these products consequently should not be labelled as yeast extract.

Yeast-based products containing more than 12% w/w glutamic acid should be assessed on a case-by-case basis to determine their technological function and their regulatory status.

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¹ Study of 48 samples of standard traditional yeast extracts from all Eurasymp full members analyzed by an external Laboratory (ISHA)