

FOOD IMPROVEMENT AGENTS

Food additives, food enzymes and food flavourings in European Union

Transnational Mobility of Pupils Project
"Cultural salad of Polish-Greek tastes"- mobility of students
of 1st Secondary School in Głowno to a partner school in
Greece.



**European
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WHY DID THE EUROPEAN UNION ALLOW THE USE OF FOOD ADDITIVES?

Why add food additives, enzymes and flavourings to food?

- Among others, food additives preserve, colour and stabilise food during its production, packaging or storage.
- Enzymes have specific biochemical actions which serve technological purposes at any stage of the food chain
- Flavourings give or change the odour or taste to food

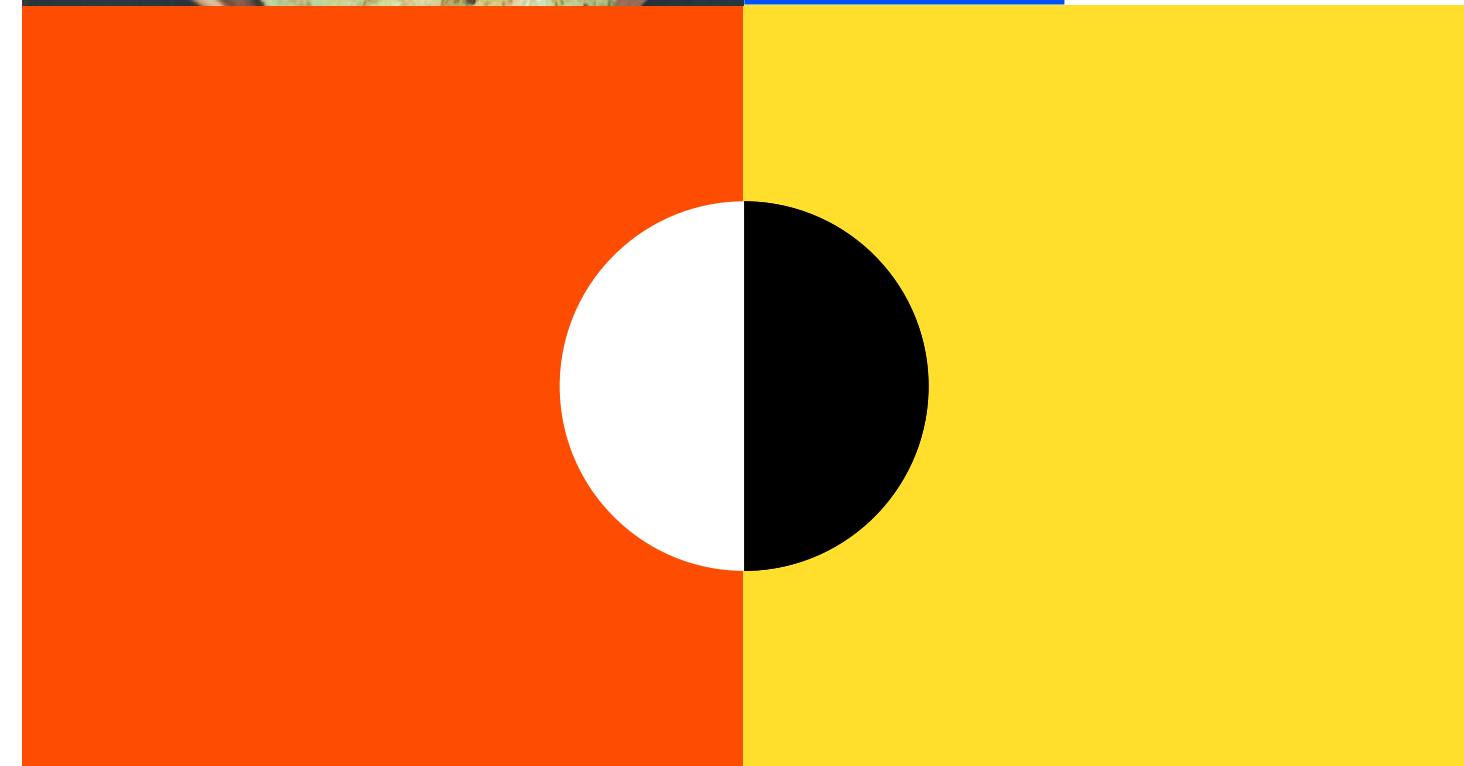
Food Additives are substances used for a variety of reasons - such as preservation, colouring or sweetening.

WHY DID THE EUROPEAN UNION ALLOW THE USE OF FOOD ADDITIVES?

All additives in the EU must be authorised and listed with conditions of use in the EU's positive list based on:

- A safety assessment
- The technological need
- Ensuring that use of the additive will not mislead consumers

The Commission will change the EU lists of food additives with regulations through regulatory procedure with scrutiny. Producers must inform the Commission of new information which may affect the safety assessment of the food additive.





Food additives

Introduction to the topic

- Food additives have become extremely helpful and useful these days. Food manufacturing on a large scale has started using them to make food varied and products that will be healthy, safe and varied can be processed in a sure way due to tests that are diligently followed.
- Among the substances such as aspartame, monosodium glutamate, cochineal red and sodium benzoate are the names of additives used in food production.

Food additives - examples

Cochineal Red – a colorant, used mainly in confectionery, bakery, colored drinks and desserts. Unfortunately it worsens asthmatic reactions and also causes hyperactivity in children.

Sodium benzoate – a preservative which is added to e.g. carbonated drinks, vegetable preserves, salads or fruit preserves. It is unfavorable for the gastric mucosa because it irritates its walls, acidifies the body or causes or aggravates allergy symptoms.

Sulfur dioxide – is another preservative used mainly in liquid substances, i.e. juices, concentrates, wine or dried fruit. It negatively affects liver function, lowers vitamin B content and may also cause allergic reactions.

Butylhydroxyanisole – antioxidant included in cakes and French fries. Adversely affects blood cholesterol levels because it raises them.

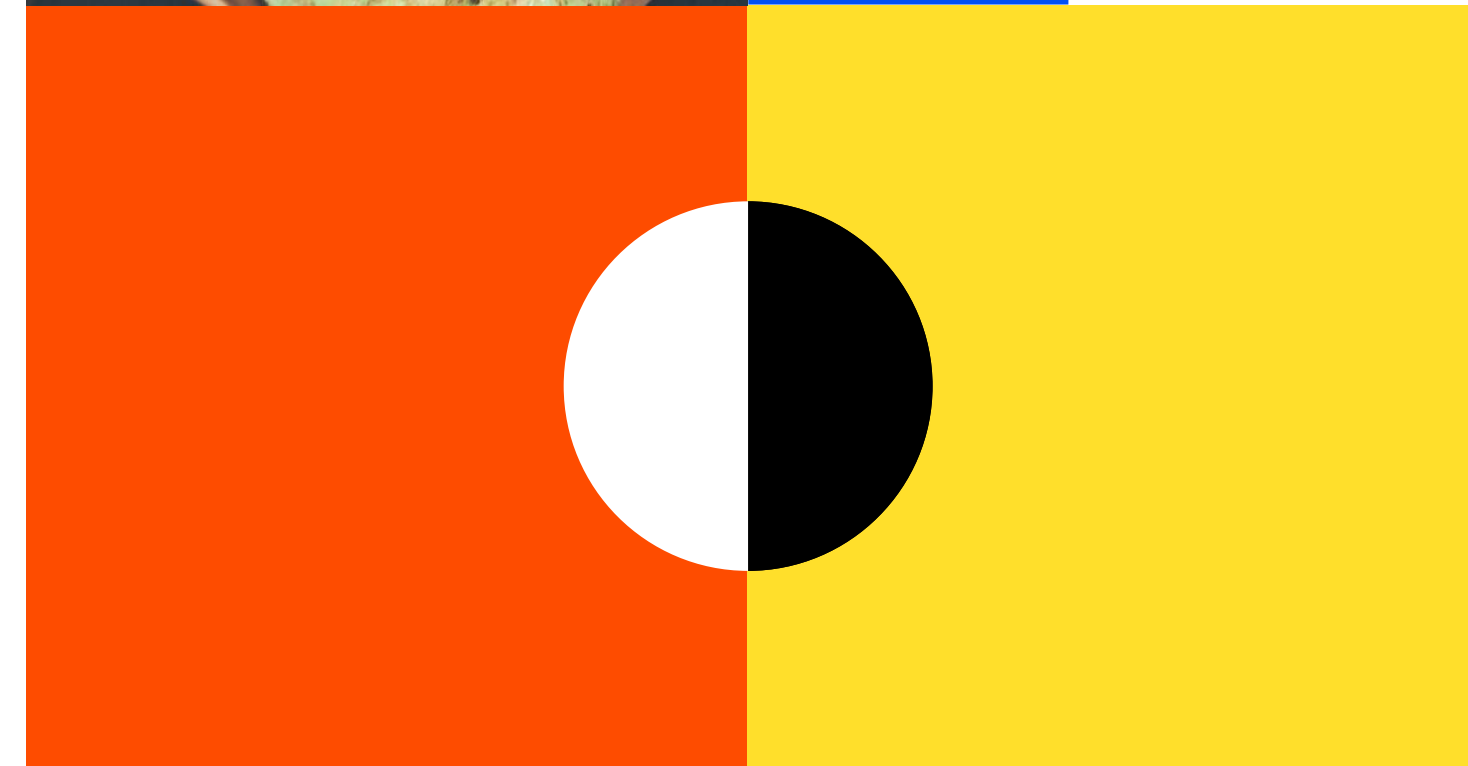
Diphosphates – thickeners found in chips, meat products and ready-made sauces. Negatively affects metabolism and reduces the absorption of nutrients.

Potassium hydroxide – brining agent and acidity regulator used in jams and marmelades. It is a harmless substance.

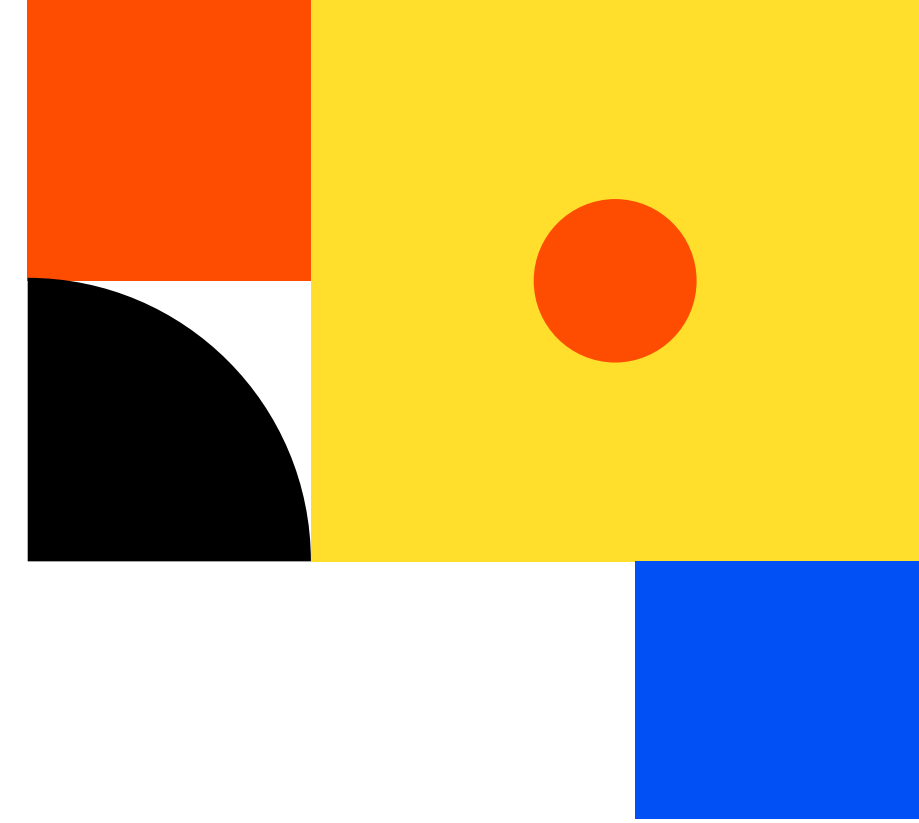
Monosodium glutamate – flavor enhancer found in finished products (spices, soups etc.) It is considered a cause of obesity and diabetes worldwide.

Aspartame – a sweetener found in carbonated drinks. It has an irritating effect on the digestive system.

Pay attention to the labels on the products, because they are important for the proper functioning of the body.



Classification by E numeric range



COLOURS

Is any dye, pigment, or substance that imparts color when it is added to food or drink. They come in many forms consisting of liquids, powders, gels, and pastes.

EXAMPLES: yellows, oranges, blues and violets

PRESERVATIVE

Is a substance or a chemical that is added to products such as food products and many other products to prevent undesirable chemical changes.

EXAMPLES: sorbets, benzoates, nitrates

ANTIOXIDANTS AND ACIDITY REGULATOROS

Antioxidants are compounds that inhibit oxidation, a chemical reaction.

EXAMPLES: thiols or ascorbic acid (vitamin C)

Acidity regulators, or pH control agents, are food additives used to change or maintain pH (acidity or basicity).

EXAMPLES: sorbic acid, acetic acid, benzoic acid, and propionic acid.



ANTIBIOTICS

Is a type of antimicrobial substance active against bacteria. It is the most important type of antibacterial agent for fighting bacterial infections, and antibiotic medications are widely used in the treatment and prevention of such infections

THICKENERS, STABILISERS AND EMULSIFIERS

Thickener is a substance which can increase the viscosity of a liquid without substantially changing its other properties.

a substance which prevents the breakdown of emulsions.

An emulsifier (also known as an "emulgent") is a substance that stabilizes an emulsion by increasing its kinetic stability.

EXAMPLES: alginates, natural emulsifiers, cellulose compounds

GLAZING AGENTS, GASES AND SWEETENERS

Sweetener is a food additive that provides a sweet taste like that of sugar while containing significantly less food energy than sugar-based sweeteners

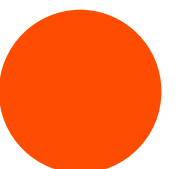
Glazing agents are a natural or synthetic substance that provides a homogeneous, coating to prevent water loss from a surface and provide other protection

EXAMPLES: waxes, synthetic glazes, sweeteners

PH REGULATORS AND ANTI-CAKING AGENTS

Is an additive placed in powdered or granulated materials, such as table salt or confectioneries, to prevent the formation of lumps (caking) and for easing packaging, transport, flowability, and consumption.

EXAMPLES: tricalcium phosphate, minerals, alkali metal compounds

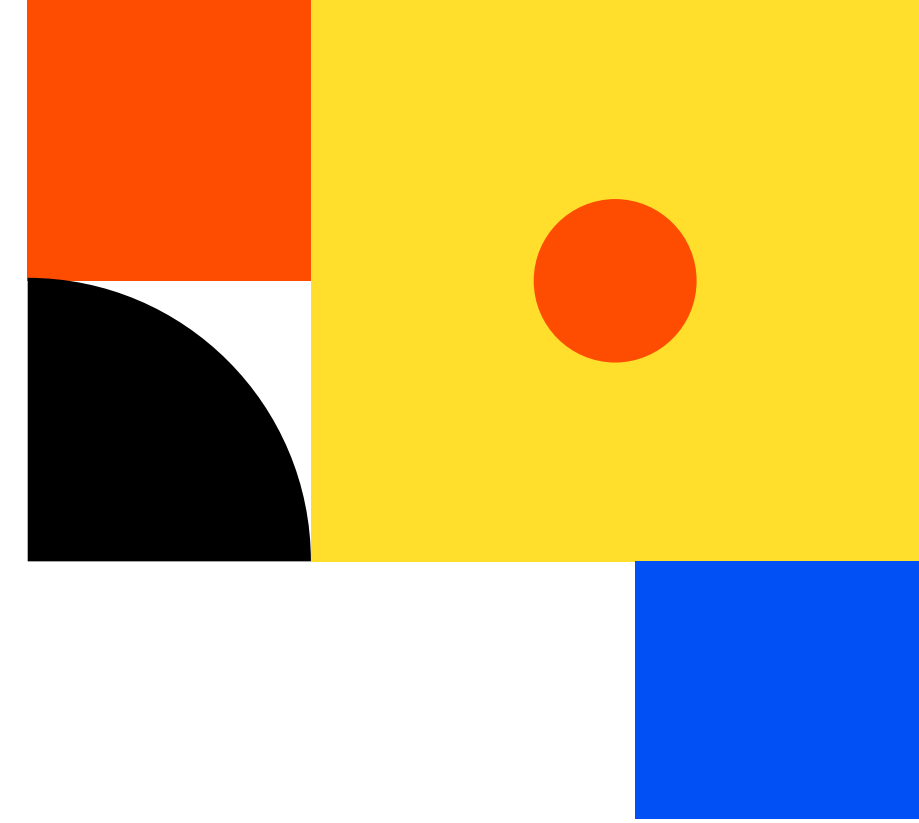




Harmless „E“ additives

It is widely accepted that additives beginning with the letter “E” are unhealthy and you need to be careful with them. It isn’t the whole truth though, as there are a couple of additives marked with “E”, that are harmless

E101 Riboflavin



E101 Riboflavin (B2) - supports functioning of the nervous system and protects against inflammation. It takes part in oxidation and reduction processes, as well as amino acid and lipid transformations

Riboflavin plays an important role in the functioning of the eyes. The effects of deficiency are growth retardation, damage to the eyeballs, deterioration of visual acuity, photophobia, tearing and many other health problems.

This supplement is safe because it is difficult to overdose, as its poor solubility in the intestine prevents the absorption of dangerous amounts of riboflavin.

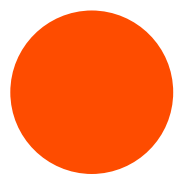


E300 Vitamin C

Vitamin C also known as ascorbic acid, is a vitamin that can be found in many foods, as well as being sold separately as dietary supplements.

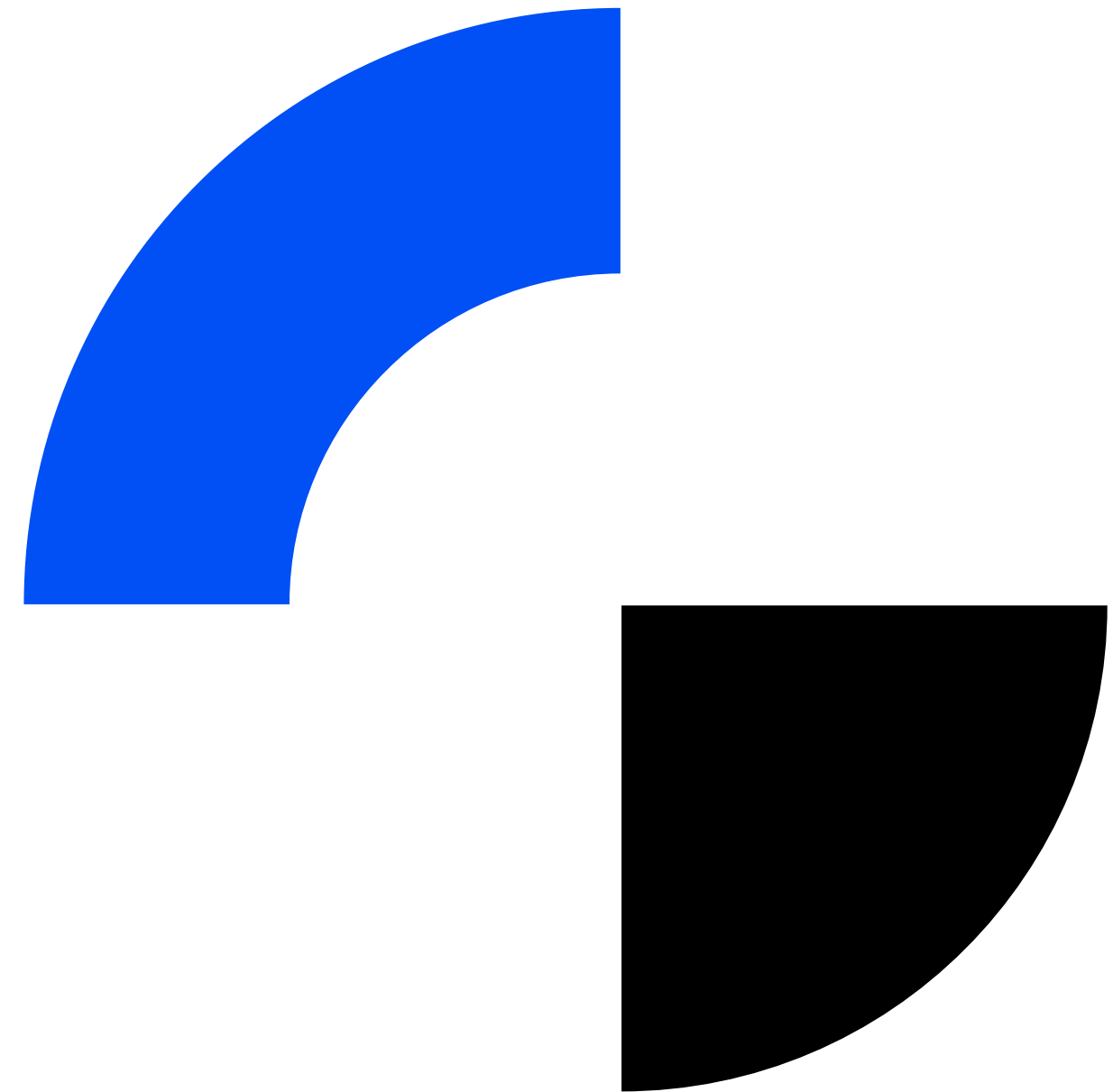
It is an essential vitamin that is involved in repairing tissue and is important for immune system function. It is also used to treat and prevent scurvy.

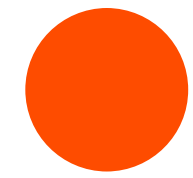
Although Vitamin C is widely tolerated, large doses can cause gastrointestinal discomfort, headaches, trouble sleeping and flushing of the skin.



E100 Curcumin

A bright yellow chemical produced by plants of the *Curcuma longa* species. As a member of the ginger family, it's sold as an herbal supplement, cosmetics ingredient, food flavoring and food coloring. So far no medical use for curcumin has been found. The most common applications are as an ingredient in dietary supplement, cosmetics and as flavoring for foods such as curry powders or mustards.





**Thank you
for your
attention!**

