



Maize Oil

Maize is a cereal grain, which was first cultivated in southern Mexico, but is now grown in many parts of the world. The main producers are United States, China, Brazil and the European Union.

The cultivation of maize in Europe amounted

to **68 970 053 tons** (Eurostat, 2018)

with the main producing countries being **France, Romania, Hungary and Italy.**



Cereal maize is used for many different food or feed purposes, it is also **used to produce starch** and products derived from starch. Maize oil, or corn oil, is one of the by-products of starch production.

Starch is obtained from the endosperm of the maize kernel, whereas the oil concentrates in the germ.

The maize germs are pressed and then extracted to obtain the crude maize oil, which is further refined for food use.



Nutritional composition

| | Per 100 g | Portion (% RI*) |
|---------------------|-------------------|-----------------------------|
| Energy | 3700 kJ/ 900 kcal | 370kJ(4.4%)/ 90 kcal (4.5%) |
| Fat of which | 100 g | 10 g (14.3 %) |
| • saturates, | 13 g | 1.3 g (6.5%) |
| • mono-unsaturates, | 31 g | - |
| • polyunsaturates, | 55 g | - |
| Carbohydrate | 0 g | 0 g (0 %) |
| Sugars | 0 g | 0 g (0%) |
| Protein | 0 g | 0 g (0%) |
| Salt | 0 g | 0 g (0%) |
| Vitamin E | 45 mg | 4.5 mg (37.5%) |

Variability in the nutritional composition can occur due to geographical variability (soil, weather, varieties etc.)

*Reference Intake values as defined in Regulation (EU) No 1169/2011 on food information to consumers.



Nutritional characteristics

Maize oil is particularly interesting for its high polyunsaturated fatty acid (PUFA) content, largely omega 6 fatty acids. It is also a good source of vitamin E.

OMEGA
3

OMEGA
6

Vegetable oils and fats are part of a balanced and healthy diet. They are rich in unsaturated fatty acids, are a source of **essential fatty acids** (from omega-3 (ALA)* and omega-6 (LA)** families, which the body cannot produce) and are **high in vitamin E**.

E



*ALA : alpha linolenic acid
**LA : linoleic acid

Recommended uses

Refined maize oil is essentially used for food purposes, for cooking (warm preparation) or for salads (cold preparation). Maize oil can be used in food products such as margarine, mayonnaise or dressings. **The high heat stability (high smoke point) of refined maize oil makes it very useful for frying applications.**

It is also used in baby food products, due to its high PUFA content.

Nutritional and health claims

According to Regulation (EC) No 1924/2006, food products can bear only nutrition and health claims approved by the European Commission and meeting the specific conditions of use.

Maize oil can bear the following nutrition claims:

- **High polyunsaturated fat** (at least 45% of the fatty acids present in the product derive from polyunsaturated fat under the condition that polyunsaturated fat provides more than 20% of energy of the product).
- **High unsaturated fat** (at least 70% of the fatty acids present in the product derive from unsaturated fat under the condition that unsaturated fat provides more than 20% of energy of the product).
- **High vitamin E** (at least twice the reference intake of 12mg, as provided in Regulation (EU) No 1169/2011).

EFSA has positively assessed the following health claims:

- Replacing saturated fats in the diet with unsaturated fats contributes to the maintenance of normal blood cholesterol levels. Oleic acid is an unsaturated fat.
- Replacing saturated fats with unsaturated fats in the diet has been shown to lower/reduce blood cholesterol. High cholesterol is a risk factor in the development of coronary heart disease.
- Replacing saturated fats with unsaturated fats in the diet contributes to the maintenance of normal blood cholesterol levels (MUFA and PUFA are unsaturated fats).
- Essential fatty acids are needed for normal growth and development of children.
- ALA contributes to the maintenance of normal blood cholesterol levels.
- Vitamin E contributes to the protection of cells from oxidative stress.

