[neoda.org.uk](http://www.neoda.org.uk/refining-oil)

**Refining of Oil**

3 minutes

The purpose of refining edible oils and fats is to remove free fatty acids and other undesirable elements naturally present in the raw material which will result in a clear, bright, pale coloured oil with no off flavours or odours and enhanced keeping properties. There are some exceptions, principally products known as 'virgin'oils, where the extracted oil receives little or no processing in order to maintain their distinctive odour, colour and taste.

Whilst the processes used can vary depending on the type and nature of the particular oil, most oils are processed in three stages, neutralisation, bleaching and finally deodorisation.

**Neutralisation**

Removal of "free" fatty acids: The crude oil is neutralised using a mild alkaline solution in order to remove any free fatty acids (those elements which may have broken away from the triglyceride molecule) which, over time, would otherwise react with oxygen and cause the oil to go rancid. This forms a neutralised oil and soap solution which is then physically separated from the neutralised oil. The oil is then washed to remove traces of soap and then dried thoroughly.

**Bleaching**

This process is not a chemical reaction: Colour and impurities are removed by mixing the oil with a naturally occurring bleaching clay (Fullers earth), which is subsequently filtered out to leave a clear, clean oil.

**Deodorisation**

A vacuum steam distillation process that removes unwanted smells and tastes in the oil by heating to high temperatures, typically using high pressure steam, under a tight vacuum and blowing steam though the heated oil.

**Oil Modification**

There are several methods used to modify oils. Three of the most common methods are:

**Blending**

Different oil types can be blended or mixed together in varying proportions for many different uses, most notably for specific functionality or to meet particular nutritional requirements.

**Hydrogenation**

Many oils are liquid at room temperature. These oils can be changed into semi-liquid or solid oils to improve their functionality. By varying the process conditions a wide range of products can be manufactured from the same starting material. This process has been used for over one hundred years.

**Fractionation**

This is a simple process whereby an oil which is normally solid at room temperature can be separated into two 'fractions'. One of the fractions will be more liquid than the start material and one of the fractions will be more solid. Again this process is carried out to achieve a wider range of products.