

# Join the alternative fuel revolution

## E85 Environmentally Friendly Fuel for Flexible Fuel Vehicles



Maxol is conscious of the benefits to the consumer of using environmentally friendly fuel such as bioethanol. The fuel provides an overall saving in CO<sub>2</sub> emissions of up to 70% compared to its petrol equivalent. Our bioethanol is manufactured from whey which is a milk derivative and sourced locally in Ireland from the Carbery Group.

### E85 is currently available at the following **MAXOL** Service Stations:

- Lower Glanmire Road, Tivoli, Cork.
- Richmond Road, Dublin 3.
- Cromwellsfort Road, Crumlin, Dublin 12.
- Seaview, Dundalk, Co. Louth.
- Ballymakenny Road, Drogheda, Co. Louth.
- Kingsmeadow, Cork Road, Waterford.
- Dublin Road, Gorey, Co. Wexford.
- Clarecastle, Ennis, Co. Clare.
- Beach Road, Sandymount, Dublin 4.
- Sallynoggin, Co. Dublin.
- Garryowen, Dublin Road, Limerick.
- Flower Hill, Navan, Co. Meath.
- Ardavan, Castlebridge, Wexford Town.
- Blessington, Co. Wicklow.



**E85**  
**MAXOL**

**Bioethanol Alternative Fuel**

Visit [www.maxol.ie/E85](http://www.maxol.ie/E85)  
for a full up-to-date list of  
E85 service stations

### What Vehicles can use E85?

The Ford Focus FFV and the Saab 9-5 BioPower are currently the two flexible fuel vehicles available on the Irish market. Maxol does not recommend the use of E85 in a vehicle unless it is designated by the manufacturer as a flexible fuel vehicle. With regard to the use of engine conversion kits, Maxol recommends that car owners seek advice from their car manufacturer before proceeding with a kit installation.

### What Octane is E85?

Maxol's E85 fuel is 104 Octane.

### What is the price of the E85?

The pump price of E85 will fluctuate in line with market prices for petrol and production costs of bioethanol. However, it is envisaged that E85 will continue to be approximately 15-20 cent per litre cheaper than unleaded 95. It is not surprising that the raw cost of the bio-ethanol is more expensive to produce than the base cost of petrol with significantly lower economies of scale in production and demand. However this is offset by the Government's decision to provide duty derogation of 44.27cpl on bioethanol based bio fuels. The difference will improve as the base cost of bio-ethanol reduces with increased production and demand along with greater savings to the motorist should oil prices continue to rise.

### From where does Maxol get Bioethanol?

The supplier of bioethanol for this E85 fuel is Carbery Group, in Ballineen, Co. Cork, and the source product is milk. Milk as a complete food contains all the essential nutrients for consumers to sustain and thrive. It contains protein, fat, lactose (carbohydrate or energy source) as well as minerals and vitamins. During cheese & food ingredient production all the proteins, fat and other components are removed except for the lactose. The lactose is present in a water solution which when fermented with yeast produces a 3.5% alcohol solution. This is then distilled to 96% v/v ethanol. However to use as a fuel we have to increase the strength to 99.9% and this is achieved by passing the ethanol over a molecular bead bed which takes out the residual water and gives the desired ethanol strength. The cows which produce the milk are 90% grass fed with the balance made up of cereals. On this basis the ethanol is derived from renewable source i.e. grass and cereals.

Bio-ethanol can also be made by fermentation from grains rich in sugar or starch, for example cereal crops, sugar beet and sorghum plants. In Sweden, it's produced locally from biomass, such as from cereals, wine and sugar cane (ethanol imports from Brazil), and wood waste.

### How does the use of Bioethanol as a motor fuel help the environment?

The main environmental benefit is its CO<sub>2</sub> reduction potential when seen from a well-to-wheel perspective. (CO<sub>2</sub> is the main greenhouse gas responsible for global warming). Bioethanol is a renewable fuel from plants (such as cereals, sugar beet etc) or biomass (incl. waste wood). The CO<sub>2</sub> emitted by the vehicles was extracted from the atmosphere during plant growth through photosynthesis. By closing the CO<sub>2</sub> circle, the use of bioethanol can lead to up to 70% reduction of CO<sub>2</sub> emissions (compared to petrol).



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*Further information is  
available on our web site at  
[www.maxol.ie/E85](http://www.maxol.ie/E85)*