Leaded or Unleaded - What Sort of Petrol to Use?

Introduction
In recent years, concerns have been expressed that the switch to unleaded fuel was a mistake, and that people should still use leaded petrol if their car can do so. This briefing explains why these concerns are misplaced, and why motorists should continue to use unleaded petrol wherever possible.

It also explains the consequences of the banning of the general sale of leaded petrol from 1 January 2000.

Why was unleaded petrol introduced?
Lead is a highly dangerous pollutant. Long term exposure to even low levels of lead can affect mental development in children. Government air pollution experts recently concluded that “the most substantial evidence of effects of low levels of lead on health relates to effects on the central nervous system and, in particular, on the developing brain of children” and went on to say that “the higher the average blood lead concentration in a population, the lower that population’s average IQ.”

Cars using leaded petrol also have higher emissions of highly dangerous particulates, because of the lead content of their fuel. Particulates are responsible for 8,500 premature deaths every year in the UK.

Why are some people worried about unleaded petrol?
Concerns about unleaded petrol stem from fears about the levels of benzene and other aromatic hydrocarbons in unleaded petrol. These aromatics reduce the tendency of the engine to ‘knock’. Benzene is a known carcinogen and it is argued that using unleaded petrol increases the risk of cancer.

However, according to the UK Petroleum Industry Association, “unleaded petrol will not necessarily have a higher benzene level than leaded.”

Much of the concern in Britain has stemmed from a
report of the House of Commons Transport Select Committee 4 in 1994 which recommended that the Government reconsider the of unleaded petrol in cars without catalytic converters. This view was dismissed by both the Government 5 and the Royal Commission on Environmental Pollution6 (Britain’s leading group of experts on environmental issues), both of whom restated their strong support for unleaded petrol. Further doubt was thrown on the Committee’s view when it was revealed that their scientific adviser was also an adviser to Associated Octel, the world’s leading manufacturer of lead additives.

Leaded or unleaded?

FOE’s position is absolutely clear: motorists should use unleaded petrol wherever possible.

All petrol cars built since the start of 1993 are fitted with a catalytic converter and must use unleaded petrol. Leaded petrol will ruin the catalyst. Many cars built before 1993 can use unleaded petrol with no problems whatsoever, but may require slight adjustments to the engine. This should be done if possible, and motorists should consult with their garage if necessary.

What’s happening in 2000?

As part of a Europe-wide strategy to cut pollution from cars, the general sale of leaded petrol in the UK will be banned from 1 January 2000. Motorists with cars using unleaded petrol will not be affected by this decision.

Some leaded petrol may still be sold for use in classic cars. Other options such as drop-in lead additives will be available for those whose cars cannot be converted to run on unleaded petrol. More information is contained in a Government leaflet entitled Making the Change, available from garages MOT centres or the DETR on 0870 1226 236.

Notes

1 Expert Panel on Air Quality Standards Lead (1998) paras 22 & 23
2 Committee on the Medical Effects of Air Pollutants Quantification of the Effects of Air Pollution on Health in the United Kingdom (1998)
3 UK Petroleum Industry Association Benzene in petrol (1993)
4 House of Commons Transport Committee Transport-related Air