

## FACT SHEET: E10 & AIR QUALITY

- ↓ **NOx reduced by up to 34%**
- ↓ **Particulate matter reduced by up to 95%**
- ↓ **Nanoparticles reduced by up to 96%**
- ↓ **Non-methane hydrocarbons reduced by up to 60%**
- ↓ **Benzene and butadiene reduced by around 25%**
- ↓ **Reduction in the cancer risk of a petrol blend by 6.6%**
- ↓ **Petrol blends lower NOx ten-fold compared to diesel**
- ↓ **Oxygen within ethanol leads to more efficient fuel burn**

- A [recent study](#) used by the [EU Commission to evaluate the air quality impacts of biofuels](#) showed NOx to be reduced by 34% and non-methane hydrocarbons by 60% when moving from E5 to E10, with E85 offering even further improvements.
- A [study from the University of Melbourne](#) showed that E10 resulted in 18% less NOx, 15% lower hydrocarbons and 26% lower particulates than standard unleaded petrol.
- A [study in Sao Paulo](#), which has 7m vehicles and the world's largest gasoline/ethanol flexible-fuel fleet, showed that when motorists used higher levels of ethanol due to lower prices, emissions of dangerous lung-damaging particulates decreased. When ethanol prices increased and drivers used higher levels of gasoline instead, the concentration of nanoparticles increased by 30%. This is the only study to have been done in non-laboratory conditions and shows a clear correlation of ethanol lowering particulates.
- A [Swiss Federal Laboratories study](#) showed that particulate matter emissions from E10 reduced by more than 95% compared to petrol, whilst another [MIT study](#) found that they were at least three times lower
- The same [Swiss study](#) showed that E10 lowered dangerous PAH nanoparticles by up to 96%
- The [recent study](#) used by the [EU Commission to evaluate the air quality impacts of biofuels](#) illustrated particulate matter to be reduced by around 7% when moving from E5 to E10.

- Benzene and Butadiene emissions, both of which are highly carcinogenic, [decrease by around 25% with higher levels of ethanol blending](#) in fuel
- The use of E10 is [widely documented](#) as achieving at least a 25% reduction in carbon monoxide emissions
- Ethanol is not carcinogenic, whilst several chemicals contained within petrol are, so bioethanol blending helps to reduce the carcinogens within the fuel
- A 5% increase in ethanol blending has shown to [reduce the overall cancer risk of a petrol blend by 6.6%](#)
- Bioethanol is mixed with petrol only, which produces over [ten times less NOx pollutants](#) than diesel when tested in real-world conditions
- The oxygen contained within ethanol helps the fuel to burn better and increases the efficiency of the engine, lowering the hydrocarbons that are released
- In its [recent report on Improving Air Quality](#), the DEFRA Select Committee stated that “the Government needs to develop more holistic policies that recognise CO2 reduction and air quality as inter-related issues requiring a joined-up response”