

# GLOSSARY OF TERMS

September 2021

**ASTM** – originally the American Society for Testing Materials but now an international technical standards organisation.

**Avgas** – aviation gasoline. The fuel used by aircraft powered by spark ignition engines and containing high levels of tetraethyl lead (cf. Mogas).

**Bio Ethanol** – the typical biofuel component used in petrol (gasoline).

**Biofuel** – fuel manufactured from plant oils or animal fats.

**BSI – British Standards Institution.** The national technical standards authority for the UK and other countries worldwide.

**Cetane Number** – is a measure of the ignition quality (ignition delay) of a diesel or gas oil. A high number is generally good. Vehicles manufactured after 2005 benefit from a cetane number >50.

**CFPP** – cold filter plugging point. The temperature measured in the standard test for the cold flow properties of diesel and gas oil.

**Compression Ignition (CI) Engine** – an engine reliant solely on fuel igniting due to its compression (e.g. a diesel engine).

**Demulsifier** – a blend of chemicals that either prevents water and fuel from mixing or encourages water dispersed within a bulk fuel to drop out.

**Deposit Control Additive (DCA)** – also referred to as fuel detergent. DCAs prevent the build up of solids within the fuel system and of carbon (unburnt fuel) within the exhaust system. At higher concentrations they will remove already formed solid deposits.

**DERV** – literally Diesel Engined Road Vehicle but a generic term used to describe road diesel.

**Diesel** – the fuel of choice for compression ignition engines.

**Direct Injection (DI)** – fuel is injected directly into the combustion chamber under control from the EMS.

**Distillate Fuel** – a fuel manufactured via distillation at the refinery e.g. kerosene, diesel, gas oil, gasoline (petrol).

**DPF** – Diesel Particulate Filter. Literally a filter within the exhaust system to trap particulate matter.

**EGR** – exhaust gas recirculation. A technique of emission control whereby a proportion of the exhaust is directed back into the engine air intake to reduce NOx emissions.

**EMS** – Engine Management System. An engine’s controlling computer.

**EPA** – Environmental Protection Agency. The US federal agency charged with writing and enforcing regulations protecting human health and the environment.

**FAME** – fatty acid methyl ester. The typical biofuel component used in diesel.

**FIE** – Fuel Injection Equipment. The general term used to describe how fuel is moved from the fuel tank to the combustion chamber (cylinder).

**Fuel oil** – a general term applying to liquid fuels used for the generation of heat or power but increasingly used to describe fuels intended for stationary burner applications or marine applications and usually specified by their viscosity and flash point.

**Gasoline** – the distillate fuel used in spark ignition engines. See also petrol, mogas and motor spirit.

**Gas oil** – fuel conforming to BS2869 as follows:

A2	–	for non–road moving machinery
D	–	for stationary equipment and burners

Also known as red diesel (green diesel in Ireland) or 35 second fuel

**HPCR** – High Pressure Common Rail. This is the pipe system delivering fuel from the fuel pump to the injectors in a modern diesel engine.

**Internal Diesel Injector Deposits (IDID)** – tenacious deposits that form inside the injector, affecting control and restricting fuel flow.

**IP** – Institute of Petroleum (now part of the Energy Institute) is the writer and publisher of test methods for the petroleum industry worldwide.

**Jet kerosene** – various grades of kerosene designed for use in aviation turbine engines. *NB. It is different to kerosene or ground kerosene.*

**Kerosene** – fuel conforming to BS2869:C2 and typically used for home heating oil in the UK and Ireland. It is intended for use in burners with a flue. Also know as 28 second oil, industrial paraffin, burning oil and ground kerosene. *NB. It is different to jet kerosene.*

**Lubricity** – a measure of a fuel’s lubricating properties, which must be maintained to stop premature wear of pumps and injectors. Measured by HFRR using ‘wear scar diameter’ as the measure, a number less than 460 microns is good.

**Mogas** – motor gasoline. The fuel used by motor vehicles powered by spark ignition engines (cf. Avgas)

**Motor spirit** – a mainly British term describing any volatile liquid used as a fuel in internal combustion engines and typically referring to petrol (gasoline).

**NRMM** – Non-Road Moving Machinery. A term often used by HMRC to describe off-road vehicle use in agriculture, forestry and construction.

**Octane Number** – is a measure of the ignition quality (ignition delay) of petrol (gasoline). A high number is generally good meaning that the fuel can withstand a higher compression before igniting. Octane boosters are added to fuel to allow higher compression ratios and to inhibit engine ‘knock’ or ‘pinking’.

**OEM** – Original Equipment Manufacturer.

**OFTEC** – the oil fired technical association, a trade body representing the interests of suppliers and technicians within the oil heating industry.

**Paraffin** – fuel conforming to BS2869:C1 and known as C1 burner fuel. It can be used in flueless burners.

**Petrol** – the British term for gasoline.

**Petroleum fuel** – fuel manufactured from crude oil.

**Port Fuel Injection (PFI)** – fuel is injected to each cylinder’s intake port just ahead of the intake valve. Injection is usually sequential, controlled by the EMS.

**ppl** – pence per litre. Used by FAST and others to quantify additive treat cost: the price in pence of a given volume of additive divided by the volume of fuel that given volume treats.

**ppm** – parts per million. The number of parts of one substance contained within one million parts of another. Typically used to define contamination or additive dose rate and approximating to mg/kg.

**Pressure Jet** – the term used to describe how fuel is introduced into the combustion chamber of an oil-fired boiler, usually via a calibrated nozzle.

**Renewable Transport Fuel Obligation (RTFO)** – a requirement on transport fuel suppliers to ensure that a given percentage of all road vehicle fuel is supplied from sustainable renewable sources. Variable targets will be set periodically.

**Residual Fuel (aka RFO, HFO)** – the oil fraction remaining once distillate fuels have been produced.

**SAE** – Society of Automotive Engineers. A US-based learned society.

**SCR** – selective catalytic reduction. A technique of emission control whereby the exhaust gases are converted to more harmless substances (e.g. the AdBlue system).

**Spark Ignition (SI) Engine** – an engine reliant on a spark to initiate fuel combustion (e.g. a petrol engine).

**WWFC** – World Wide Fuel Charter is a publication of fuel quality recommendations written by vehicle and engine manufacturers from around the world. Although not an enforceable specification or standard, it represents the 'ideal world' conditions required by modern injector, engine and exhaust system designs and is increasingly referenced.

**Vaporising Burner (aka pot burner, wick burner, etc)** – a fuel burner arrangement typically used on older range cookers (e.g. AGAs) whereby it is the fuel vapour that is ignited to create heat.