

Product Information Memorandum

1st April 2011

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Fuel Grades & Standards:

PRODUCT	ALTERNATIVE NAME	STANDARD	ALTERNATIVE STANDARD
Ultra Low Sulphur Diesel	DERV	I.S.590	
Gas Oil 1000 PPM	Gas Oil Class D	I.S.251	BS 2869
Gas Oil 10 PPM	SFGO Class A2	I.S.251	BS 2869
Kerosene	Kero Class C2	WS51	BS 2869
Unleaded Petrol	ULP 95/ E5	I.S. EN228	

1. GAS OIL 1000 ppm & SULPHUR FREE GAS OIL (SFGO).

From today all Gas Oil marketed for use in non-road mobile machinery (NRMM) (mobile off road equipment) must contain no more than 10 milligrams of sulphur per Kilogram of fuel (i.e. 10 parts per million – 10 ppm).

This will result in a new product being marketed from today’s date called **Sulphur Free Gas Oil (SFGO)**.

From today it will be illegal to sell conventional Gas Oil to customers who intend to use it in non-road mobile equipment. End users who have a stock of conventional Gas Oil (Sulphur 1000 parts per million – 1000 ppm) may continue to use these stocks until fully used. Acceptance of deliveries of 1000 parts per million Gas Oil is taken as confirmation to Campus Oil Ltd. by the recipient that it is strictly for use in compliance with Regulations S.I.155 & S.I.156.

This change to Sulphur Free Gas Oil (SFGO) is to implement EU Directive 2009/30/EC & S.I.156

New non-road mobile equipment is fitted with clean technology to meet new strict EU emission standards and this equipment will not work long term with Conventional Gas Oil (GO). Customers should consult their service engineer, mechanic or agent for advice on each specific machine.

a) Appearance and Colour

Sulphur Free Gas Oil (SFGO) will use the same green dye as conventional Gas Oil and will look exactly the same.

b) Who will be affected by these changes?

Owners and users of OFF-Road equipment – any mobile piece of plant or equipment not currently using road diesel including boats on inland waterways and pleasure craft.

Typically affected will be tractors, combines, self drive harvesters and sprayers and all other mobile agricultural equipment, forestry equipment, construction equipment, forklifts, portable generators, inland waterway vessels, recreational craft and railway

vehicles (this is not a comprehensive list).

Customers likely to be affected – Farmers, Agricultural Contractors, Building Sites, quarries, commercial and transport customers using diesel forklifts. Distributors will also be affected.

c) Uses not affected by these changes

Gas oil for static (non-mobile) use and heating applications (Home heating – space heating etc.) is not affected. Conventional gas oil with a sulphur content of up to 1,000 ppm may be used.

Sea going vessels are not affected.

2. Bio-Fuel Blends

The presence of Biofuel in some Diesel, Gasoil, and Petrol make the product more hygroscopic (tends to attract more water). Commercial & industrial storage tanks should be cleaned annually and always kept free of water. Kerosene is not normally blended with Biofuel.

Some terminals will supply Sulphur Free Gas Oil (SFGO) by adding green dye to Road Diesel. Because road diesel contains some biodiesel (up to 7%), much Sulphur Free Gas Oil (SFGO) is also likely to contain Biodiesel from 1st January 2011. Biodiesel blends of up to 7% are compatible with existing off-road equipment engines provided good housekeeping arrangements have been adhered to in the storage of the fuel.

3. Good Housekeeping for storage of:

Gas Oil (all grades)

Diesel (“Derv”)

Kerosine (“Kero”)

- a) Oil stored in tanks has the potential to accumulate water through the process of changing temperatures, causing condensation.
- b) The presence of water in Diesel and Gas Oil then precipitates mould growth which customers sometimes see as a black\green slime or sludge.
- c) Good housekeeping requires that tanks are emptied, cleaned and de-sludged at least once every 2 years (ideally annually). Despite this many customers have tanks which have been refilled many times over a long number of years without being cleaned, until a problem occurs.
- d) The presence of Bio-diesel in Diesel and now Sulphur Free Gas Oil (SFGO) adds to this problem. Bio-diesel tends to attract more water and is more prone to mould or algae growth than diesel produced from mineral oil.
- e) The Sulphur Free Gas Oil (SFGO) will require improved fuel storage “housekeeping” arrangements. If you have tanks storing gas oil (or Derv) you will need to ensure that these are free of water and monitor them monthly to ensure that they remain so.
- f) Bio-diesel is also a stronger cleaning or scouring agent and thus may break dirt\mould deposits free and these will end up blocking filters.
- g) Users should consult their equipment servicing agent about replacing fuel filters on storage tanks and off-road equipment as a one-off exercise, after 2 to 3 fuel tank throughputs, to prevent deposits picked up by the new fuel blocking filters.
- h) It is recommended that you turnover the contents of the tank every 6 months, but in any event, no less often than every 12 months.
- i) Tanks should be emptied, cleaned and de-sludged at least once every year.

The above good housekeeping should be used for all storage of all fuel grades – Gas Oil (GO), Sulphur Free Gas Oil (SFGO), Road Diesel (DERV) and KERO.

Domestic heating oil tanks should also be cleaned regularly. In particular domestic Gas Oil tanks may contain bio fuel and cleaning every 2 years is recommended.

4. Compatibility of Off-Road Equipment with Sulphur Free Gas Oil (SFGO)

Experience in the United Kingdom seems to show that modern off-road equipment should have no problems running on Sulphur Free Gas Oil (SFGO). The only change in specification from the existing Gas Oil specification is the sulphur level going from 1000 ppm to 10 ppm. All other specifications remain the same. However, fuel seals and pipes in some older equipment may be incompatible with Sulphur Free Gas Oil and require replacing. If in any doubt about the use of this fuel in any piece of equipment, consult your service agent or engineer.

- a) **How does this affect gas oil used for heating or static equipment?**
Regulations on the sulphur content of gas oil used for home or space (schools, churches etc.) heating and in static equipment are not changing.
- b) **How does this affect marine gas oil ?**
Gas oil sold for use in inland shipping vessels and recreational craft operating on inland waterways will have to comply with the 10 ppm specification for

sulphur. However, regulations on the sulphur content of gas oil used in sea-going vessels are not changing.

c) What else should I do, or be aware of, about fuel storage?

Certain seals in sight gauges, filters and pumps on older equipment may not be compatible with bio-diesel and could therefore fail after a period of use.

Consult your equipment service engineer with regard to the following:

- Check if your tank has a drain point for removing water. If not one may need to be retro fitted if possible. (Domestic plastic tanks and similar size smaller plastic tanks do not have a drain point and water can only be removed by taking down the tank and washing out).
- Examine sight gauges, filters and tank gauges for signs of leakage and replace seals as required.
- If you are having equipment serviced consider replacing all seals as a precautionary measure.
- Replace fuel filters after the first 2 or 3 full tanks used of the new fuel.
- Ensure tank contents are turned over every 6 months.

5. Information with regard to freezing (waxing) of Gas Oil and Road Diesel

In the recent extremely cold winters some customers have experienced problems with Road Diesel or Gas Oil freezing in filters or tanks. Some of this is related to extremely cold temperatures and this can be exacerbated by tanks being sited in exposed locations with temperature dropping further through wind chill.

The specification for the freezing point called the Cold Filter Plug Point (CFPP) in Ireland is as follows:

	Summer 16 th March to 30 th September	Winter 1 st October to 15 th March
Road Diesel (Derv)	-5 C	-15 C
Gas Oil – (GO) 1000 ppm	-4 C	-12 C
Sulphur Free Gas Oil (SFGO) 10 ppm	-4 C	-12 C

Summer diesel is not suitable for use in Irish winter conditions. Customers are advised to only order diesel in such quantities that they will not carry summer diesel stock into winter. Customers are also advised not to leave summer diesel in the fuel tanks and fuel systems of vehicles as they may lead to problems in extremely cold conditions. Customers should consult their service engineer on this matter.

Wind chill can drop temperature several degrees below the actual temperature. Customers should locate storage tanks to minimise wind chill exposure as far as possible.