Managing Fuel

Fuel management can be a complicated task, and anyone approaching the problem maintaining a fuel supply needs to understand the benefits and limitations. Wherever possible, humanitarian organizations should seek to outsource fueling services, using direct delivery or refueling stations where possible. Unfortunately the humanitarian landscape requires direct active management of fuel supplies in many instances.

As a general rule, fuel should be treated as a specialized sub-category of storage and transportation, and requires special attention. Humanitarian agencies working in disaster settings should consider making special precautions and procedures for fuel management, especially if fuel management becomes a large part of the portfolio of activities.

Common Terms in Fuel Management

Dispenser	A nozzle, hose or other device that is used to deposit or deliver fuel from a storage container to a vehicle or another storage container.
Flowmeter	A meter that is used to record the follow of fuel, usually liquids measured in litres. Flowmeters are usually used for recording usage over time.
Drum	A common unit for transporting liquid fuel. The most common unit of drum is a 200 litre drum.
Discharge	The act of draining or removing liquid or gas from a tank/drum/canister or other form of container.
Hot Work	Any activity or process that generates a source of ignition, this could be through a flame, heat or a spark. Activities such as welding are considered “hot work.”
Flashpoint	The temperature at which flammable fuels become combustible when exposed to an external ignition source. Different substances have different flashpoints.
Fuel Reservoirs	Any container of any kind that used to hold fuel. This may include canisters, drums, tanks, bladders and other form factors.
Phase Separation	The gradual separation of a mixture of compounds into two distinct compounds. In the case of liquid fuel, phase separation entails fuel separating into different layers, including impurities and water.
Stale Fuel	Fuel that is old and has become impacted by chemical changes. Stale fuel is inefficient and can impact the performance or even damage engines.

Terminology

It is common to use the term “fuel” to refer to different products. Furthermore, equal terms in different languages refer to different product types. The following translation sheet, illustrates the basics on fuel terminology:

French	English (US)	English (UK)	Spanish	Use	Handling Specifics
COMBUSTIBLE (Carburant)	FUEL (Motor fuel)	FUEL (Motor fuel)	COMBUSTIBLE (Carburante)		
METHANE	METHANE	METHANE	METANO	Town gas	Gas
ETHANE	ETHANE	ETHANE	ETANO		Gas
PROPANE	PROPANE	PROPANE	PROPANO	Bottled gas for fridge, heating, etc.	Gas
BUTANE	BUTANE	BUTANE	BUTANO	Bottled gas for fridge, heating, etc.	Gas
G.P.L.	L.P.G.	L.P.G.	G.P.L.	Liquefied Petroleum Gas	Gas used for car fuel, (adapted engine)
AVGAS, LL100 Essence Avion	AVGAS, LL100	AVGAS, LL100	AVGAS, LL100	Aviation Gasoline: for piston engines	**Very volatile, fluid, blue colour, same smell as petrol.** Very flammable, explosive. Can be used in a petrol engine with 3% oil added
ESSENCE - super - normale - sans plomb	GASOLINE - premium - regular - unleaded	PETROL - super - regular - unleaded	GASOLINA - super - normal - sin plomo		**Volatile, fluid, colourless (or almost). Very flammable, explosive.** Cannot be replaced by diesel, but can replace Avgas in some aircraft. Various octane indices between regular and super
KEROSENE, JETA1	KEROSENE, JETA1	KEROSENE, JETA1	KEROSENO, JETA1	Turbine engine aircraft	**Same as for Paraffin but with aeronautical specifications:** Filtering, packing and storing.
PETROLE (Lampant), PARAFFINE (Canada)	KEROSENE (Lamp oil)	KEROSENE (Lamp oil), PARAFFIN (Oil)	KEROSENO, PETROLEO	Lamps, fridges, burner, etc.	**Colourless, specific smell.** Fuel for so-called “lamp oil” equipment
GASOIL, GAZOLE	GASOIL, DIESEL	GASOIL, DIESEL	GASOLEO, DIESEL	Cars	**Greasy, yellowish, frequently coloured, heavy smell.** When pure, solidifies at -5°C and requires an additive (or 20% lamp oil). This also acts as the injection pump lubricant.

French	English (US)	English (UK)	Spanish	Use	Handling Specifics
FUEL, FIOUL, MAZOUT	FUEL OIL	FUEL OIL, PARAFFIN	FUEL	Heating	Same as diesel without additives for low temperatures and lubrication
HUILE	OIL	OIL	ACEITE	Lubrication	Greasy, different viscosities for different uses
PARAFFINE	PARAFFIN, WAX	PARAFFIN, WAX	PARAFINA	Candles	
PETROLE LOURD	HEAVY FUEL	HEAVY FUEL		Slow engines	Heavy combustible for marine engines and power plants
ASPHALTE, BITUME	ASPHALT	ASPHALT	ASFALTO	Road surfaces	
PETROLE (BRUT)	CRUDE PETROLEUM, KEROSENE	ROCK OIL, PARAFFIN	CRUDO	Natural state	

Adapted from MSF