

Singapore Synergy Fuel System

Frequently asked questions on Singapore Synergy Fuels

What is Synergy Fuel System?

The Synergy Fuel System is a full slate of high performance fuel products for Esso and Mobil customers in Singapore, each one enhanced with the latest generation of fuel additives, designed to keep vehicles operating at their optimum. This range of products meets the fuel needs of all types of vehicles in Singapore.

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| Synergy 8000 | Highest octane with friction reducing additive with added corrosion protection to fuel delivery system |
| Synergy 5000 | Removes engine deposit, keeps fuel delivery system clean |
| Synergy 2000 | Keep fuel injector and intake valves clean |
| Synergy Diesel | Keep diesel injectors clean. Formulated with anti-foaming formula make re-fueling faster. |

Synergy 8000

What is different about Synergy 8000?

Synergy 8000 is the highest-octane (98 RON) unleaded gasoline from Esso & Mobil in Singapore. It includes a fully synthetic friction reduction additive package, which can keep the fuel injectors, and intake valves of an engine clean, allowing the engine to perform at its optimum and provide measurable improvement in fuel economy. In addition, it provides corrosion protection to the vehicle's fuel system.

What are the benefits of Synergy 8000?

High Octane

Synergy 8000 has highest octane rating (98 Research Octane Number) and is for vehicles, which can benefit from higher octane. To find out what octane your car engine needs, first check your car owner's manual. Some models have high compression engines, which are requires the octane level in Synergy 8000.

Ordinarily, your car will not benefit from using a higher octane than recommended in the owner's manual. But if your engine knocks or pings at the recommended octane level, you may need a higher-octane gasoline to prevent the knock.

Many modern cars are equipped with an electronic device that detects and eliminates light knocking before you hear it. The devices suppress knock by retarding the spark. We believe that some of these cars may experience some deterioration of acceleration performance, without knocking, when operating under high engine demand conditions.

Added Corrosion Protection

The corrosion inhibitor in Synergy 8000 is added to the fuel to prevent corrosion during storage and delivery. They also help prevent corrosion occurring in the vehicle's fuel system. This added protection is important as corrosion deposits can build up in carburetors, injector nozzles or fuel filters and in extreme cases may cause engine to stall.

Can I mix Synergy 8000 with other fuels?

Yes, Synergy 8000 is fully compatible with other gasoline. However, when mixed with other fuels, the full benefits of Synergy 8000 will be diluted.

Synergy 5000

What is Synergy 5000?

Synergy 5000 is a high-grade unleaded gasoline (95 RON) which provides many of the same benefits as Synergy 8000, but is intended for those vehicles which do not need the higher octane. Synergy 5000 gasoline contains a fully synthetic detergent additive package. This advanced additive will clean up and keep the fuel injectors and intake valves of an engine clean, allowing

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the engine to perform at its optimum. In addition, it provides corrosion protection to the vehicle's fuel system.

Synergy 2000

What is Synergy 2000?

Synergy 2000 is the lower octane (92 RON) petrol offered by Esso & Mobil. Synergy 2000 is intended for those vehicles which do not need the higher octane (See notes below on octane and knock). This grade enables a driver to operate with a lower cost fuel, while still keeping intake valves and fuel injectors clean and maintaining the corrosion protection.

Octane

What is Octane Number?

Octane number is a measure of a fuel's ability to resist knock. The higher the octane number of a fuel, the greater its resistance to knock. The octane requirement of an engine varies with design features such as compression ratio, geometrical and mechanical considerations and operating conditions such as altitude and ambient temperature. To find out what Octane your engine needs, first check your car owner's manual. But if your engine knocks or pings at the recommended octane level, you may need a higher-octane gasoline to prevent the knock. Knocking may occur under certain conditions. A small percentage of cars knock because of variations in engines of the same model due to manufacturing tolerance, or because of an unusual build-up of engine deposits in the engine combustion chamber during the first 15,000 miles of driving. The conditions may result in pinging and a higher octane requirement for an engine as it gets older, compared to when it is new.

What is "engine knock"?

Knock is a sharp, metallic-sounding or pinging noise that results from uncontrolled combustion.

What causes knock and why is it bad for your car?

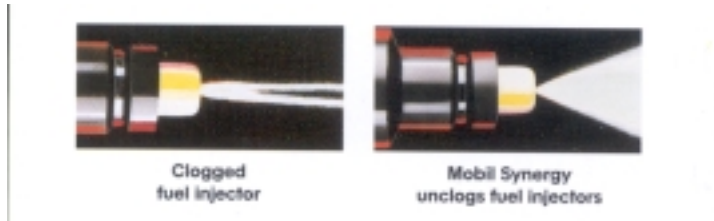
Normally, when the fuel / air mixture in the combustion chamber is ignited by the spark plug, the resulting flame front moves smoothly across the chamber, consuming fuel at a controlled rate while exerting a steadily increase downward pressure on the piston. However, the increasing pressure and temperature in the combustion chamber can cause fuel with insufficient octane to ignite before the flame front reaches it. This result in sudden rise in pressure, accompanied by knock. When this occurs, the knock sensor (if installed) will adjust (retard) spark timing to eliminate the knock, reducing optimal engine performance with some loss of power and acceleration. While occasional light knocking is not harmful to the engine, heavy knocking or continuous operation with audible knock can cause engine damage.

Keeping the engine clean

Why is it so important to keep my engine' intake system clean?

Due to the inherent nature of combustion engine operation, all gasoline engines produce reaction by-products, which can be laid down as deposits in the engine's intake system. These deposits are complex oxidation / combustion by-product derived from the reactions of fuel, engine oil, combustion gases and blowby gases. Such deposits can degrade correct operation of the engine when they occur in critical areas such as air bleeds in carburetors (older vehicle), fuel injectors and on intake valves.

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Synergy Diesel

What is Synergy Diesel?

Synergy Diesel is a high quality fuel blended with a new multi-functional detergent additive package. This package is designed to:

- Keep fuel injectors clean resulting in improved combustion and reduced emissions
- Provide corrosion protection to fuel system
- Enhances fuel stability in storage
- Reduce foaming characteristics of the fuel to enable faster fuel fill up without overflow.

How does Synergy Diesel clean my engine?

Fuel injectors are the heart of a diesel engine. They are highly precision components designed to meter diesel fuel with great accuracy. Proper functioning injectors are essential to ensure optimal performance of all diesel engine types.

The advanced detergent additive in Synergy Diesel keeps fuel injectors clean in both indirect and direct injection diesel engines. This assures that injectors can do their job properly and gives optimal operation of the engine as designed by its manufacturer.

