

**DESCRIPTION:**

Liquid Intelligents 200 Fuel Additive is designed to enhance diesel engine performance and reduce emissions. Efficient operation of diesel engines depends on proper operation of the fuel injectors. Control of deposits in this critical area is necessary to ensure optimum performance, minimize fuel consumption, and control engine smoke.

Liquid Intelligents 200 Fuel Additive. Provides overhead lubrication for cylinders, pistons and valves, removes carbon from injectors and combustion area. Deactivators and anti-corrosion additives safeguard fuel systems. Broad spectrum biocide prevents and dissipates all biological growths. Cetane improvers increases the cetane number of the fuel and decreases the ignition delay improving combustion.

Application ratios:

Diesel Hot Shot: 500ml per 100 litres.
Diesel Normal 250ml per 100 litres.

CHARACTERISTICS:**Ashless Detergent**

When added to fuels, Liquid Intelligents 200 ash-less detergents, additives and inhibitors resist gumming and residue formation, this prevents clogging of injectors, build-up on, exhaust valves and filters.

Upper Cylinder Lubrication

Liquid Intelligents 200 lubricates the upper cylinder, valves, valve guides, oil rings etc. 200's Special lubricant enables it to combine with the fuel before combustion and lubricate the upper engine parts. This reduces the accumulation of deposits on intake valves and maintains emission control system efficiency.

Metal Deactivators and Corrosion Inhibitors

Liquid Intelligents 200's metal deactivators protect copper in the fuel system and deactivate traces of copper from the refining process, if unchecked copper traces act as a catalyst for formation of gums and deposits. 200's Corrosion inhibitors impregnate the metal surfaces protecting the fuel system against corrosion extending filter, pump and injector life.

Biocide Enhanced

When temperatures are warm and moisture in the form of free water or humidity exists in fuel, normal dust can introduce spores to the fuel system. These spores can either live in the water and feed on the fuel at the water fuel interface or in high humidity can live in the fuel itself. The residue from these "fuel bug" colonies can block filters, damage injectors and pumps stopping the machinery causing downtime.

Liquid Intelligents 200 uses a dual range biocide, 1 part for disinfection of the water trap areas in fuel tanks and another part that stays suspended in the fuel preventing any fuel based infections.

Whether fuel tanks are bulk storage or vehicle, the addition of Liquid Intelligents 200 to your fuel system will prevent and dissipate all biological growths (fuel bug).

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ANSWERS FOR COMMONLY ASKED QUESTIONS FOR AFTERMARKET FUEL ADDITIVES

Q How do they work?

A The different components in an additive package all have a specific job to do:

Detergent:

For the prevention & clean up of the formation of carbon deposits and other contaminants created by the incomplete combustion of fuels and lubricant residues.

These deposits can cause any of the following:

Rough idling, stumbling, stalling

Power loss

Increase in fuel consumption

Increase in emissions

Decreased engine life

Lubricity agent: (only diesel)

For the lubrication of all parts in the fuel system.

Advantage:

Prevent wear or damage to the fuel system.

Corrosion inhibitor:

For the protection of the fuel system against corrosion

Advantage:

Longer life of the fuel system

Prevents filter blocking

Demulsifier:

For separating water if present so that the water will stay at the bottom of the tank and/or fuel filter.

Advantage:

Prevents damage to the fuel system.

Avoids bacterial growth

Prevents filter blocking

Stabilizer/anti oxidant:

For preventing darkening and further reactions causing sludge or other sediments in the fuel during the storage of the fuel.

Advantages:

Prevents filter blocking

Longer storage life of the fuel

Cetane improver:

Increases the cetane number of the fuel

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Decreases the ignition delay

Improves combustion

Advantages:

Improved cold start

Reduced HC and CO

Reduced white smoke

Higher engine durability

Less diesel noise

Q Is Liquid Intelligents 200 fuel additive cost effective?

A If deposits cause engine malfunctioning, resulting in an increase of fuel consumption or engine damage, yes.

Q What if the Liquid Intelligents 200 product is added to an almost empty tank?

A This is no problem at all, however for maximum benefits the tank should be topped up shortly after the treatment.

Q Can we claim fuel economy in a new vehicle?

A No, we can only restore deteriorated performance by removing deposits.

Q Can I pass the emissions tests at the car inspection by using Liquid Intelligents 200 additive and what do I have to do?

A Most engines in the field producing an increased smoke or emissions level, are suffering from high deposit levels in the fuel system, pump, or injectors, causing the smoke or increased emissions. The most effective way of restoring the smoke or emissions level of dirty engines is cleaning those deposits. The Liquid Intelligents 200 fuel system cleaner is a very effective deposit cleaner. Using the Liquid Intelligents 200 fuel system cleaner on a regular basis and preferably 1 tank before going to the inspection gives optimum performance. If a mechanical engine component failure is causing the increased smoke or emissions, the products will not help, and the defective component will have to be replaced.

Q Can the Liquid Intelligents 200 additive be used in engine cleaners? An engine cleaner is a device, which is connected to the engine's fuel system so that the engine is running on the fuel and additive from the engine cleaner. They claim a fast and drastic cleaning.

A Liquid Intelligents 200 is designed to give the highest possible effect when treated in a full fuel tank. Generally the use of an engine cleaner can not be recommended, definitely not for modern diesel engines.

Q Does Liquid Intelligents 200 diesel additives have a combustion improver?

A No, the large majority of this type of product use metals such as barium, cerium, or iron. However modern additives should be ashless, and not contain any metals. Metals can cause harm to after treatment systems and the environment. Some of the Liquid Intelligents diesel fuel additives contain a cetane booster. This basically means that it decreases the ignition delay, giving a smoother combustion, reducing noise, emissions and white smoke. Also significantly improving cold start giving a smoother running diesel engine whilst the product is present in the fuel.

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Q Is Liquid Intelligent 200 ok to use in my diesel turbo?

A Yes, Liquid Intelligent 200 is suitable for all diesel vehicles whether turbo charged or not.

Q What possible problems are there associated with low sulphur diesel?

A There are certainly a number of problems arising with the widespread use of LSD. The process of removing sulphur from diesel fuel has resulted in the removal of much of the lubricity of the fuel. As most diesel injection equipment is lubricated by the fuel, its lubricating properties are needed to prevent wear or damage to pumps and injectors. Liquid Intelligent diesel fuel additives contain lubricity agents to overcome this problem and help to eliminate premature pump failure and expensive replacement due to lack of lubrication in the fuel.

Q How do deposits build up in the diesel injectors? and what will be affected?

A Diesel injectors are exposed to high temperatures in the combustion chambers. At these temperatures, diesel fuel remaining in the injectors can become gummy and carbonaceous deposits on the injector tips can be formed. The build up of these deposits will affect the amount of fuel injected and the spray pattern, resulting in loss of power, more smoke and worse fuel economy.

Q Why should I to put Liquid Intelligent 200 diesel fuel additive into my diesel fuel if the fuel has already met the fuel specifications?

A Different countries have different diesel fuel specifications. Different refineries also make different fuels. The modern refinery of today, for economic reasons, has a good capability to convert heavy refinery streams to lighter products. Diesel fuels from these processes have a higher tendency to form deposits in the injectors. As a result, additives to control the formation of these deposits are becoming more and more important.

In addition, diesel engines are built differently, with varying tendencies to have deposit built up and different sensitivities to these deposits. Liquid Intelligent 200 diesel fuel additive provides additional deposit protection in a wide range of engines.

Q There are many brands of diesel fuel additives available in the market. Why should I use Liquid Intelligent 200 diesel fuel additive?

A Liquid Intelligent 200 diesel fuel additive is formulated from the best and most modern detergent additives (additives to control deposits at the injectors). In addition to the detergency capability, it also contains other components to improve other important aspects of the diesel fuels. These include cetane improver, lubricity agent, corrosion inhibitor, stabiliser, demulsifier and anti-foam agent.

Q Why should I spend extra money for the additive?

A Putting Liquid Intelligent 200 diesel fuel additive in the diesel fuels will make a dirty engine run smoother, restoring lost power, creating less smoke and saving fuel bills. There are studies showing that the better fuel economy resulting from cleaner fuel injectors alone is far more than the cost of the additive itself.

Q Is Liquid Intelligent 200 diesel fuel additive effective in both DI and IDI engines?

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A Definitely. Liquid Intelligents 200 diesel fuel additive is designed to be effective in both DI and IDI engines, whether it is a light duty or heavy-duty engine.

Q How often should I treat my diesel fuel with Liquid Intelligents 200 diesel fuel additive?

A It is recommended to add Liquid Intelligents 200 diesel fuel additive to one full tank of the diesel fuel at the minimum interval of every 5000 km or every time when the engine oil is changed. However, in severe cases it may be required to treat your diesel fuel with Liquid Intelligents 200 diesel fuel additive more often.

Q Can we claim intake valve deposit cleaning in a diesel engine?

A No, in a diesel engine the fuel is injected directly in the combustion chamber after the intake valve. Therefore the fuel cannot clean intake valves. IVD in diesel engines is generally not an issue.

Q Are there metal-based smoke reducers in the packages?

A No, they have not proven to be able to actively reduce smoke in our extensive testing. Our product works as a smoke reducer by the effective cleaning of deposits in the fuel system and injectors, also after the treatment. Some metals may reduce smoke temporarily, but most cause deposits and may damage the catalyst. They should not be used as fuel additives.

Q Can we claim extended lubricity and cetane improver benefits, also after the treatment?

A In the first few tanks after the treatment there will be some additive present, however the concentration becomes more diluted and the cetane improver and lubricity benefits will decrease.

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