

Guard Fill-Petrol

Product properties:

The **Guard Fill-Petrol** keeps inlet valves, injection nozzles and combustion chambers free of coke residues, reduces friction in the engine and protects all metal surfaces from corrosion. The **Guard Fill** additive package reduces petrol consumption up to 3 percent and can even reduce engine out emission up to 35%. Humidity and condensed water gets removed and the upper cylinder area is well lubricated and protected. **Guard-Fill** keeps the engine in good condition during its entire life.

Performance parameter:

- reduces nozzle contamination
- prevents coke residues
- perfect Anti-Foam properties
- perfect corrosion protection
- elevates the octane level
- protects the fuel system from water and humidity
- improved fuel stability
- compatibel with engine and fuel system materials

Benefits in details:

Water reaction

The product contains an effective demulsifier component. This meets the requirements of the ASTM D1094 water reaction test. The results are between 1-2 and pass this test with very good performance.

Corrosion protection

Our product also protects against corrosion in wet fuel systems. Tests conducted on our **Guard Fill-Petrol** treated fuels have shown excellent protection against corrosion even at low treat rates, using the modified ASTM D665/92 method. Without our **Guard Fill-Petrol**, the test are fails; with **Guard Fill-Petrol** the test pass with very good result of "A".

Keep clean effect

In Europe and other parts of the world the accepted test for the measurement of intake valve deposits is the Mercedes M102E test carried out according to the CEC F-05-A-93 protocol. The test are carried out with European Gasolines, conform to EN228, with an IVD requirement of < 25 mg/v.

After the test the IVD value are 15.2 and pass this test with very good result in Keep Clean Inlet Valve Deposits.

Another test carried out with Asia Pacific 95 RON Gasoline, with an IVD requirement of < 50 mg/v shows a test result of 37.4 mg/v and passed also the test protocol with a very good result in Keep Clean Effect.



CTP GmbH

Saalfelder Straße 35
07338 Leutenberg
Tel.: 03 67 34/ 23 00
Fax: 03 67 34/ 2 30 22
hotline@ctp-gmbh.de

powermax

Intake valve deposit control

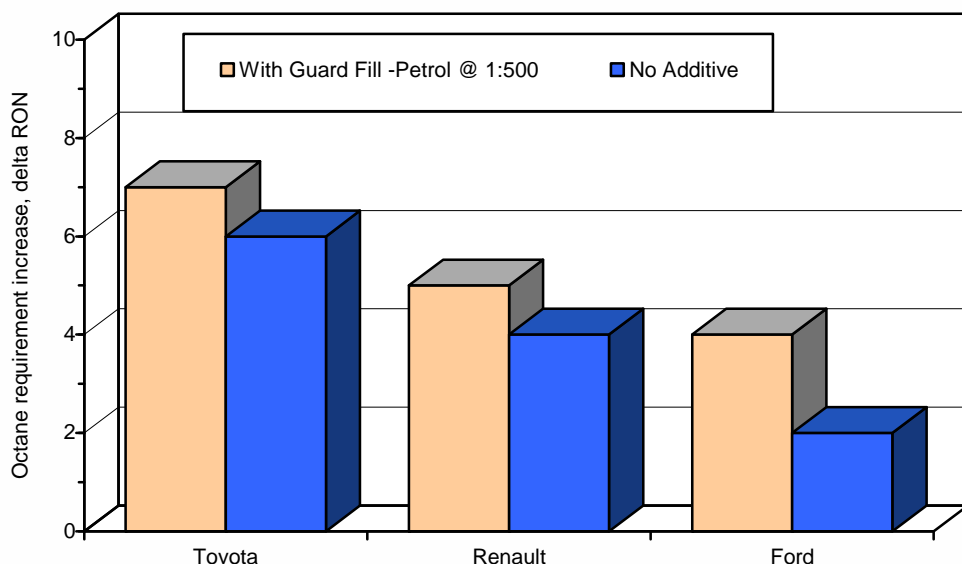
The ASTM D5500 test method use an BMW over a 10,000 mile distance. The Intake Valve Deposit requirement needs to be values below 50 mg/v. The result after the test are 25.3 mg/v. This is only the half of the required value and means a very good deposit control during the complete test period. Another test with an industry standard Mercedes M102E engine over a 60-hour period shows the following result of inlet valve deposit removal, measured by weight:

- Gasoline without Additive: 285,5 mg/v inlet valve deposit
- Gasoline with Additive: 86,8 mg/v inlet valve deposit.

The test result shows a clean performance (percentage clean-up) of 69.6 %.

Octane number increasing

A special additive component in the **Guard Fill-Petrol** may raise the ROZ octane number of fuels with lower qualities. Test with different fuels have detected an increasing of approx. 1 to 2 of octane numbers. The used test method are the EN ISO 5164 standard.



Fields of application:

Motor vehicles, motorcycles and other high performance engines (e.g. ships and boats, Go-Karts, racing motors, lawn mowers, etc.)

Instructions for use:

Add to the fuel system before filling up.

Consumption per vehicle:

75 ml in 80 l tank volume (Dosage ratio: 1:1000)



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