



PRODUCT INFORMATION SHEET

WYNN'S SPITFIRE OCTANE BOOST

Product Number: 43804 24 x 350 ml

WYNN'S SPITFIRE OCTANE BOOST is an exclusively formulated double-duty non-leaded fuel additive for petrol engines that increases the octane number of any grade of petrol used, and provides valve seat recession protection.

Petrol engine pinging causes severe damage to an engine. Prolonged pinging and detonation can cause loss of power, poor fuel economy, engine overheating, and worst of all, severe engine damage such as hammered bearings or melted pistons. One cannot always tell that a vehicle is suffering pinging or detonation. Inaudible detonation can be impossible to detect by ear. Dynamometer tests show that inaudible detonations will cause loss of horsepower and loss of ring sealing.

These problems became obvious when super leaded petrol had its octane rating reduced as a result of intense lobbying by community groups to have the lead levels lowered. Also these problems are not limited to leaded petrol. Many later model cars running on either unleaded or premium unleaded fuel suffer both audible and inaudible detonation.

Late model cars with knock sensors can retard their spark advance and inject additional petrol to suppress detonation, but this reduces power and increases fuel consumption.

Wynn's Spitfire Octane Boost will overcome these engine knocking problems with whatever grade of petrol is used – unleaded (ULP), premium unleaded (PULP) or lead replacement (LRP).

Lead was more than an octane enhancer, it was a lubricant too. And when that lubricating protection was part of every tankful of leaded petrol, most passenger vehicles were engineered with "softer" less wear-resistant valve-seats.

Today, many of those older "lead-age" cars are still on the road. But with the loss of lead lubrication, their exhaust valves can stick to the valve seating – pulling away small metal particles that oxidise and, in turn, wear away more and more of the seating every time the valve closes.

Wear of the valve seating – or valve-seat recession (VSR) can lead to increased exhaust emissions, poor idling, and a loss of power. And since precise valve-to-seat contact is needed for proper valve cooling, VSR can also result in valve burning and in rare cases, - catastrophic engine failure.

The potential for VSR increases with smaller engines running at higher speeds. So as more of the fast-paced world makes the change to unleaded petrols, Wynn's Spitfire Octane Boost is the smart solution to deliver both high-octane performance and valve-seat recession protection.

To test the effectiveness of Wynn's Spitfire Octane Boost on Research Octane Number (RON), various grades of petrol were treated at different dose rates.

The untreated and treated grades of petrol were evaluated and tested to the Standard ASTM D 2699.

**ASTM D 2699
RESEARCH OCTANE NUMBER**

RON Before Treatment

**Improvement After 350ml 43804
Wynn's Spitfire Octane Boost**

Petrol:	40 Litres	60 Litres	80 Litres
91.0	+3.6	+2.8	+2.3
92.0	+3.3	+2.6	+2.2
95.0	+2.7	+2.1	+1.8
96.0	+2.5	+2.0	+1.7

<u>UNLEADED PETROL (ULP)</u>	AUSTRALIAN STANDARD TYPICAL	91.0 MIN 91.7-92.7
<u>PREMIUM UNLEADED PETROL (PULP)</u>	AUSTRALIAN STANDARD TYPICAL	95.0 MIN 95.0-96.0
<u>LEAD REPLACEMENT PETROL (LRP)</u>	AUSTRALIAN STANDARD TYPICAL	96.0 MIN 96.0-96.5

• **VSR PROTECTION**

Results from independent CLH testing of a "critical" European engine shows just how dramatically Wynn's Spitfire Octane Boost can reduce valve-seat recession (VSR).

WYNN'S SPITFIRE OCTANE BOOST	VALVE RECESSON WEAR (mm/1000hrs)
UNTREATED UNLEADED PETROL	3.7
MINIMUM DOSE RATE	0.2
MAXIMUM DOSE RATE	0.1

High engine speeds and severity of operation increase the protection required against valve-seat recession. Most vehicles will operate satisfactorily in normal conditions but will be stretched as conditions become more severe.

Wynn's Spitfire Octane Boost provides the opportunity to treat sufficiently for the most severe operation.