



PRODUCT BULLETIN

▪ PRO-STRENGTH OCTANE BOOSTER

Nulon Pro Strength Octane Booster (PSO) is specifically formulated to increase the octane rating of petrol used in high performance and competition engines. High performance, high compression engines require fuel with a higher octane than normal passenger cars. Using a fuel that does not have a sufficiently high octane rating causes the engine to detonate (ping), which in turn can cause severe engine damage.

Every engine has a minimum octane requirement (OR) that depends upon engine design and, in particular, compression ratio. The higher the compression ratio, the higher the OR. If the petrol used does not have a sufficiently high Research Octane Number (RON) to cater for the engine's OR then detonation occurs. Detonation is the term used to describe the chemical breakdown of the fuel/air mixture, which results in premature self-combustion during the compression stroke of the engine, i.e. the mixture explodes prior to ignition by the spark plug. Under these circumstances the force of the explosion is opposing the direction of piston travel resulting in enormous loads. If detonation is allowed to continue, engine failure can occur. Nulon PSO substantially increases the RON of petrol, thus reducing the likelihood of detonation. Nulon PSO is compatible with all leaded and unleaded fuels including race fuel and Avgas.

It should be noted that the lower the RON of the base fuel, the greater the increase after the treatment. Conversely, high RON base fuel yields a much lower increase after treatment. This phenomenon applies to all octane enhancers.

Many high performance modern engines are fitted with "knock sensors". These sensors recognise the moment detonation commences and retard the ignition timing to stop further damaging detonation. However, while retarding the ignition timing protects the engine from damage, it robs the engine of performance and efficiency. Adding Nulon PSO at the correct ratio stops this whole cycle and promotes maximum performance and efficiency without risk of damage.

Many cars imported into Australia have to constantly operate on premium unleaded petrol (PULP) of 95 RON or higher. In remote areas of Australia, PULP is unavailable. Nulon PSO effectively converts regular unleaded fuel to PULP

when treated according to the directions. Strict testing of Nulon PSO ensures that no component contained in this product will have a detrimental effect on any engine or fuel system part. All components have been tested for millions of kilometres.

Benefits:

- Boosts RON by up to 7 numbers
- Stops engine detonation (pinging)
- Maximises horsepower potential
- Reduces overheating and piston damage
- Safe for catalytic converters and oxygen sensors
- Components are US EPA approved
- Protects against valve seat recession

Indicative RON increases:

91.5 Unleaded	+PSO=96.5	(5.0 RON increase)
95 PULP	+PSO=98.1	(3.1 RON increase)
98 PULP	+PSO=100.1	(2.1 RON increase)
96 LRP	+PSO=98.5	(2.5 RON increase)

(When used at maximum recommended treat rate.)

Directions for Use:

To boost octane add one 500 ml bottle to 60 litres of petrol. Add directly to the tank prior to filling. Experiment with lower doses to establish the optimum treat rate to stop detonation. Use with each tank full.

To stop valve seat recession, add 1ml to each litre of petrol.

First Aid Directions:

For advice contact the Poisons Information Centre (Ph. Australia 131 126; New Zealand 0800 764 766) or a doctor (at once). If swallowed, do NOT induce vomiting. Not to be used as a food container

Packaging:

- 500 ml (16.9 US fl oz) bottles (12 bottles per carton)
Part No. PSO
- 4 litre (1.05 US gals) single units
Part No. PSO-4

Notes: Because of the strength of this product it is illegal to sell it for use in road-going vehicles in the US. It can only be used in off-road applications. Do not allow PSO fluid to come in direct contact with sunlight. To do so will reduce product's effectiveness in minutes.