# Tech Bulletin

*World Leader in Race Fuel Technology™* *Tech Bulletin prepared by Vince Colagiuri*

## Roo25 Plus..... Advancing the science of motorsport!

**Roo25 Plus** -- VP Racing Fuels are proud to announce that we have formulated a new fuel called Roo25 Plus. Roo25 Plus is designed to suit the needs of high rpm, naturally aspirated drag racing engines with compression ratios above 12.0:1. Roo25 Plus is a leaded oxygenated fuel that has been developed to out perform our own DINGO with horsepower and torque gains of up to .75%. Approved buy ANDRA for use at sanctioned events Roo25 Plus is ideal for Australian Pro/Super Stock and comp eliminator applications. The oxygenation of Roo25 Plus will significantly expand the range of air/fuel ratio acceptability, so performance will be more consistent and won't vary as dramatically with altitude or density changes.Roo25 will allow for easier tuning as in most cases it's fuel volume consumption is 1.% lower to DINGO which can be a great help to those extreme engine applications where fuel volume or strong carburetor signal can be a issue.

To purchase or for more information on Roo25 Plus contact:

VP Racing Fuels PTY LTD

Unit 24, 85 – 115 Alfred Rd,
Chipping Norton, NSW, 2170
Ph: 02 9723 4233, Mob: 0421 116838.

Or visit: www.vpracingfuels.com.au

| Property/ Typical Values | Roo25 Plus |
|---|---|
| Specific Gravity @ 60F° | .738 |
| OXYGENATED | YES |
| Color | FLURO GREEN |
| RESEARCH OCTANE | 106.0 |
| MOTOR OCTANE | 100.0 |
| LEADED | YES |

## The four most important properties of racing fuel

You can't make a racing fuel that has the best of everything, but you can produce one that will give your particular engine the most power. This is why we produce different fuels for different applications. The key to getting the best racing gasoline is not necessarily buying the fuel with the highest octane, but getting one that is best suited for your engine.

1. OCTANE – This is simply the rating of a fuel's ability to resist detonation and/or preignition. Octane is rated in Research Octane Numbers (RON), Motor Octane Numbers (MON), and Pump Octane Numbers (R+M/2). Pump Octane Numbers are what you see on the yellow decal at the gas stations and represents an average of RON and MON. VP reports MON ratings because this method tests a fuel's performance under a heavier load than the RON method, thus better simulates racing conditions. Most other companies use RON because it sounds better in marketing messages. Don't be fooled by high RON numbers or an average—MON is the most relevant for a racing application. However, a fuel's ability to resist preignition is more than just a function of octane.
2. BURNING SPEED - The speed at which fuel releases its energy. In a high-speed internal combustion engine, there is very little time (real time - not crank rotation) for the fuel to release its energy. Peak cylinder pressure should occur around 20° ATDC. If the fuel is still burning after this, it is not contributing to peak cylinder pressure, which is what the rear wheels see.
3. ENERGY VALUE - An expression of the potential in the fuel. The energy value is measured in BTUs per pound, not per gallon. The difference is important. The air:fuel ratio is in weight, not volume. Remember, this is the potential energy value of the fuel. This difference will show up at any compression ratio or engine speed.
4. COOLING EFFECT: The cooling effect on fuel is related to the heat of vaporization. The higher the heat of vaporization, the better its effect on cooling the intake mixture. This is of some benefit in a four-stroke engine, but can be a big gain in two-stroke engines.