



Mixing Unleaded Street Gasoline with Leaded Racing Gasoline

Summary: Don't mix leaded and unleaded gasoline; it is illegal and could prove to be very costly.

Mixing unleaded street gasoline with leaded racing gasoline seems to be the thing to do lately. We receive a lot of questions about this from racers trying to save money and/or reduce the octane number of the product. There are good and bad points in mixing these two very different types of gasoline.

The first problem is that if the product is for a street driven vehicle, the resulting gasoline is illegal since it will contain lead. The biggest part of the illegal issue is the \$25,000 fine that one can incur. **This will ruin your whole day.** If the gasoline is for a racecar, the legality is not an issue. By the way, leaded gasoline has been illegal for use in **ALL** street driven vehicles in all states in the US since January 1, 1996.

The second problem is that if the mix of gasolines is for your racecar, you have contaminated the highly sophisticated racing gasoline with less sophisticated street gasoline. Do you buy high quality beer, then dilute it with water to make it last longer? If you do, read no farther because we can't help you. If you don't dilute your beer with water, read on. We can help.

A good racing gasoline is designed to burn efficiently between 5,000 and 9,000 RPM. A good street gasoline is designed to burn efficiently from idle to 3,000 RPM which is the highest speed most engines see during the EPA test for exhaust emissions. Mixing the street gasoline with the racing gasoline compromises the good high-speed burn characteristics of the racing gasoline thereby reducing the potential engine output. This also reduces the octane quality of the blend.

On the subject of octane quality, it is essential that you have enough octane to satisfy your engine by keeping it free of detonation. Cutting down on the octane quality with street gasoline is OK if you can accept the side effects, and as long as you don't blend below the octane requirement of the engine. When you cut the octane down with street gasoline, you will compromise engine output. Didn't you build this engine to go racing with, and get the most power out of it that you can? Why punish your engine by reducing its output with a compromised gasoline?

Another item on the subject of octane, there is no such thing as too much octane. Your engine only knows when it does not have enough. That's when you have serious problems. "Over octaneing" is a term that comes up occasionally when someone thinks that their engine is making less power than it should because the gasoline has too much octane. When they switch to a lower octane gasoline, power increases. This can happen, but it is because of all of the differences in the gasolines that the user is not aware of, like the various types of hydrocarbons in the gasoline, distillation characteristics, etc. As a racing gasoline manufacturer, the primary way that we identify the gasolines is by octane number and that is what the customer usually looks at also, even though there are many other variables that make a difference in developing horsepower.

Another potential problem is that each time that you blend racing gasoline and street gasoline, you do not necessarily get the same end results. This is because street gasoline is “seasonally varied” six or seven times per year based on the temperatures that are anticipated in your particular area. Racing gasoline remains the same through out the year, but with the variable of the street gasoline, one can get some less than ideal mixtures that contribute to vapor lock and/or make consistent tuning difficult.

If you haven't figured it out by now, **Rockett Brand™ Racing Fuels** does not recommend the mixing of ANY street gasoline with ANY leaded racing gasoline. The end results are too variable to predict, and the engine performance is compromised because the gasoline is compromised. Your engine has to be all it can be (derived from US Army ad) if you want to kick ass and win. We do believe that you race to win, right? Don't make it tougher than it already is!!!!!!!



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