Toulene or Xylene, whichever happens to be more available/cheaper. I run low boost most of the time, but when I want to go racing its not a big deal to mix up a few gallons and octane booster and pour it in the tank.

Formula #1 - Toluene
R+M/2.....114
Cost.....$2.50/gal

Mixtures with 92 Octane Premium
10%.....94.2 Octane
20%.....96.4 Octane
30%.....98.6 Octane

Notes: Common ingredient in Octane Boosters in a can. 12-16 ounces will only raise octane 2-3 *points*, i.e. from 92 to 92.3. Often costs $3-5 for 12-16 ounces, when it can be purchased for less than $3/gal at chemical supply houses or paint stores.

Formula #2 - Xylene
R+M/2.....117
Cost.....$2.75/gal

Mixtures with 92 Octane Premium
10%.....94.5 Octane
20%.....97.0 Octane
30%.....99.5 Octane

Notes: Similar to Toluene. 12-16 ounces will only raise octane 2-3 *points*, ie. from 92 to 92.3. Usually mixed with Toluene and advertised as *race formula*.

Formula #3 - Methyl-tertiary-butyl-ether (MTBE)
R+M/2.....118
Cost.....$3.50/gal

Mixtures with 92 Octane Premium
10%.....94.6 Octane
20%.....97.2 Octane
30%.....99.8 Octane

Notes: Oxygenate. Very common in octane booster products. Has lower BTU ontent than toluene or xylene, but oxygenate effect makes the gasoline burn better and produce more energy.

Formula #4 - Methanol or Ethanol
R+M/2.....101
Cost.....$0.60 - $1.75/gal

Mixtures with 92 Octane Premium
10%.....94.3 Octane (Methanol)
10%.....94.7 Octane (Ethanol)
20%.....Not Recommended

Notes: Methanol is wood alcohol. Ethanol is grain alcohol and found in Gasohol in 10% ratios. Both alcohols are mildly corrosive and will eat gas tank linings, rubber and aluminum if used in excessive ratios. Main ingredient in "Gas Dryers", combine with water.

Formula #5 - Isopropyl Alcohol and Tertiary Butyl Alcohol
R+M/2.....101
Cost.....$0.60-$1.50/gal

Mixtures with 92 Octane Premium
10%.....94.5 Octane
20%.....Not Recommended
30%.....Not Recommended

Notes: Similar to Methanol/Ethanol. Isopropyl Alcohol is simply rubbing alcohol.

Sample Mixture

To make your own octane booster, it is easiest to make up a large batch, and then bottle it up in "dosage-size" uses. Below is the basic formula of one of the popular octane booster products. To make eight 16 ounce bottles (128 oz = 1 gal):

100 oz of toluene for octane boost
25 oz of mineral spirits (cleaning agent)
3 oz of transmission fluid (lubricating agent)

This product is advertised as "octane booster with cleaning agent *and* lubricating agent!". Diesel fuel or kerosene can be substituted for mineral spirits and light turbine oil can be substituted for transmission fluid. Color can be added with petroleum dyes.

Oh, and by the way, VERY IMPORTANT!!! running straight toluene with regular gas will work but I dont recommend using it for long periods of time as you have no lubricant or cleaning agent in the gas, if you want to use it for lengthy periods at a time, mix for ever 100oz of toluene:
25oz mineral spirits
3oz ATF or motor oil

Lubricate, as someone said with ATF or better yet, marvel mystery oil. You'll need this, since you will basically dissolve away the detergents in gas.

None of the above additives can be added in enough quantity to run much more than about 100 octane. If you need much higher, youll have to go race fuel.

Yes, meth (~130 octane or so) + 100 octane gas will give you extra room to run more boost. How much? Depends all on your setup. Read, know what you're doing.

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Well with 150 shot of nitrous and 25lbs of boost, xylene failed 3 times on me; toluene was the only "real" and proven product in which helped my knocking and pinging go away and put down over 600 rwhp without any damage to my engine. Xylene ate my 4th and 6th fuel injector.
