## Acetone In Fuel Said to Increase Mileage 15-35\%

> Readily-available chemical added to gas tank in small proportion improves the fuel's ability to vaporize completely by eliminating the surface tension that causes some particulates to note fully vaporize.

(PRWEB) March 19, 2005 -- Acetone (CH3COCH3), also called dimethylketone or propanone, is a product that can be purchased inexpensively in most locations around the world, such as in the common hardware store. Added to the fuel tank in tiny amounts, it aids in the vaporization of the gasoline or diesel, increasing fuel efficiency, engine longevity, and performance -- as well as reducing hydrocarbon emissions.

## How it Works

Complete vaporization of normal fuel is far from perfect in today's cars. A certain amount of fuel in most engines remains liquid in the hot chamber. In order to become a true gas and be fully combusted, fuel must undergo a phase change.

Surface tension present an obstacle to vaporization. For instance the energy barrier from surface tension can sometimes force water to reach 300 degrees before it vaporizes. Similarly with gasoline.

Acetone drastically reduces the surface tension. Most fuel molecules are sluggish with respect to their natural frequency. Acetone has an inherent molecular vibration that "stirs up" the fuel molecules, to break the surface tension. This results in a more complete vaporization with other factors remaining the same. More complete vaporization means less wasted fuel, hence the increased gas mileage from the increased thermal efficiency.

That excess fuel was formerly wasted past the rings or sent out the tailpipe but with acetone it gets burned.
Acetone allows gasoline to behave more like the ideal automotive fuel which is PROPANE. The degree of improved mileage depends on how much unburned fuel you are presently wasting. You might gain 15 to 35percent better economy from the use of acetone. Sometimes even more.

How Much to Use
Add in tiny amounts from about one part per 5000 to one part per 500, depending on the vehicle -- just a few ounces per ten gallons of gas.

Figure 1:
Percentage MILEAGE GAIN when a tiny amount of acetone is added to fuel. The curves A B C show the effect on three different cars using different gasolines. Some engines respond better than others to acetone. The D curve is for diesel fuel. Too much acetone will decrease mileage slightly due to adding too much octane to the fuel. Too much also upsets the mixture ratio because acetone (like alcohol) is a light molecule.

After you find the right amount for your car per ten gallons, and you are happy with your newfound mileage, you might want to try stopping the use of acetone for a couple of tanks. Watch the drop in mileage. It will amaze you. That reverse technique is one of the biggest eye openers concerning the use of acetone in fuel. In a 10 -gallon tank of gasoline, use two to three ounces of pure acetone to obtain excellent mileage improvements. In a ten-gallon tank of diesel fuel, use from 1 to 2 ounces of acetone. Performance went up too. Use about a teaspoon of acetone in the fuel tank of a lawnmower or snowblower.

## Where to Get Acetone

The pure acetone label is the only additive suggested and is easily available from most stores in 16-ounce plastic bottles and in one-gallon containers from some large farm supply stores. But any acetone source is better than none. Containers labeled acetone from a hardware store are usually okay and pure enough to put in your fuel. We prefer cans or bottles that say 100-percent pure. The acetone in gallons or pints we get from Fleet Farm are labeled $100 \%$ pure. The bottles from Walgreen say $100 \%$ pure. Never use solvents such as paint thinners or unknown stuff in your gas. Toluene, benzene and xylene are okay if they are pure but may not raise mileage except when mixed with acetone.

## Additional Benefits

In addition to increased mileage acetone added to fuel boasts other benefits such as increased power, engine life, and performance. Less unburned fuel going past the rings keeps the rings and engine oil in far better condition. A tiny bit of acetone in diesel fuel can stop the black smoke when the rack is all the way at full throttle. You will notice that the exhaust soot will be greatly reduced.

Acetone can reduce hydrocarbon emissions up to 60-percent. In some older cars, the HC readings with acetone went from say 440 PPM to 195 , as just one example. Though mileage gains taper off with too much acetone, hydrocarbon emissions are nevertheless greatly reduced. Pure acetone is an extremely clean burning fuel that burns in air with a pretty blue, smokeless flame.

Acetone reduces the formation of water-ice crystals in below-zero weather which damage the fuel filter.
There are no known bad effects and every good reason to use acetone in your fuel. I have never seen a problem with acetone, and I have used ACETONE in gasoline and diesel fuel and in jet fuel (JP-4) for 50 years. I have rigorously tested fuels independently and am considered an authority on this important subject.

## Cautions

Keep acetone away from painted surfaces, such as the paint on your car under the gas tank opening. Acetone is the key ingredient in paint remover. In addition to paint, fuels, including acetone, can also dissolve asphalt and most plastics.

Never allow skin contact with it. It can damage clothing as well. Don't breathe it. Keep children away from all dangerous chemicals. Read the directions on the container.

Acetone is a highly flammable liquid. Do not expose it near a flame or spark. Acetone should be stored outside, with proper ventilation, not inside your house. Gasoline and/or acetone will dissolve cheap plastics, so be sure the container you store it in will not deteriorate.

No Issues with the Engine
I have soaked carburetor parts in acetone for months and even years to see if there is any deterioration. Any parts made to run with gasoline will work with acetone just fine.

Contrast with Alcohol
In contrast, alcohol has been shown to be corrosive in an engine, yet they put THAT into gasoline. Alcohol in general is anti-mileage. Most of the alcohol that enters your gas came here from Europe as stale wine. Alcohol is no good in fuels. In Brazil, millions of engines and fuel systems were ruined by alcohol.

Furthermore, alcohol increases surface tension, producing the opposite effect from acetone.
Alcohol in fuel attracts water. This hurts mileage because water acts like a fire extinguisher. Some cars may run badly and even quit due to the incombustible nature of the water laden fuel. We know of a dozen cars that recently stopped running due to water in the alcohol and gas mixture.

In below-zero weather, the water and alcohol form abrasive, icy particles that can damage fuel pumps.

## Hasn't Been Warmly Received

Questions asked of someone in the petroleum industry regarding ACETONE will often automatically trigger a string of negative reactions and perhaps false assertions. We may have heard them all. The mere mention of this additive represents such a threat to oil profits that you may get fabricated denials against the successful use of acetone in fuels.

The author has never found any valid reason for not using acetone in gasoline or diesel fuel. Plus it takes such a tiny amount to work. No wonder they fear this additive.

## Political Action

You might Email this article to your government representative. After sufficient data has been collected, and that data supports the conclusions presented here, ACETONE should be ordered by Federal Law to be present in all fuels. While you're at it, request that vehicles be equipped with a MPG read-out to make it easier for consumers to know what is and is not working to improve their mileage.

## If You Want to Do Independent Testing

For those of you who like to see the data yourself, there is a great little device available to check your exact gas mileage and more. See http://ScanGauge.com for an instrument that fits any car1996 or newer. It measures your real-time MPG, inlet temperature and many more details as you drive. This inexpensive tool should end a lot of debate over what works for mileage and what does not. We use the TRIP function to average the MPG at a steady 50 MPH both ways.

Since the fuel from every gas station is slightly different from the next, the MPG performance will also vary slightly. Then there exist a wide variety of additive choices at the terminals that affect quality. When trucks deliver gasoline to the gas stations, their method of mixture for the various grades of fuel is astonishingly lax. What the pump says the fuel rating is, and what the rating actually measures can be so different that the "premium" might actually be closer to "regular," and vise versa in extreme cases. Also other variables in the cars performance such as warm external temperature versus cold external temperature, using the AC or not, headlights or not, incline of drive, etc. Try to eliminate as many of these variable as possible in your comparative testing.

Be consistent where you buy your gasoline because different gasolines vary tremendously. The best gas and the worst gas in your neighborhood will likely have a 30 -percent spread in mileage. Same for diesel fuel. (In my experience with repeated test results, I have found that Texaco, Chevron and Canadian Shell deliver excellent gasoline mileage.) Try to keep down the number of variables wherever you gas up by using the same station, same pump, same grade or same octane before testing.

Incidentally, in almost all cases, the lowest octane is best for mileage. Most modern vehicles do not have high Page 3/5
enough compression to justify using high octane fuels. The testing indicates best mileage is usually obtained with 85 or 87 octane gasoline. Too much octane causes a loss of power and economy. BUT too little octane causes the same things plus knocking. Listen carefully to your engine for tell-tale knocks or clicks when you start out from a light. The best mileage points to the correct octane when the engine is properly tuned.

The ScanGauge enables you to notice these difference and then see the difference with and without acetone added in various proportions.

## Report Your Findings

PES Network Inc. has created an index page at PESWiki where you can report your findings. PESWiki is a publicly editable website where you can post a summary of your results, or create a full page, with all the details you wish to report, with images and links to video or spreadsheet data.

## http://peswiki.com/index.php/Directory:Acetone as a Fuel Additive

Other Additives Exist
There are of course other additives that improve mileage (which also have had less than a favorable reception by the petroleum industry). Certain octane improvers for example also aid mileage. We recently proved that Carb Medic from Gunk can raise mileage when 3 oz . are used with 2 oz . of acetone per 10 gallons of gasoline, even in cold weather.

Many products claiming to improve mileage are expensive and do not really help much. Others are fakes. For instance, a smooth flow of air into a carburetor or injector is far better for mileage than turbulent air. Yet many people deliberately introduce turbulent air into their engines. There are many silly myths floating around the car industry to fool the average person. Another is that cold intake air improves mileage. NO. Warm air improves mileage.

Test for yourself. Take a mileage check for each and every tank of gas or diesel fuel like we do. Your actual mileage is not that of a single tankful but the average of perhaps five tanks worth. To be accurate, you should not miss any checks. This takes discipline to get reliable results. Someday your car will do it for you with an MPG gauge on the dash. But for now, YOU ought to keep tabs on your mileage for all our sakes.

The above story by Louis LaPointe, adapted by Sterling D. Allan with LaPoint's permission, is published, with related links, at
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http://www.lubedev.com/smartgas/additive.htm
Harry Dschaak of Rockland Idaho, who drove gasoline semi trucks and has reported on the method used in the industry for fuel mixture.
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