

# Acetone In Fuel Said to Increase Mileage

*Readily-available chemical added to gas tank in small proportion improves the fuel's ability to vaporize completely by reducing the surface tension that inhibits vaporization of some fuel droplets.*

by Louis LaPointe

Adapted by [Sterling D. Allan](#) and [Mary-Sue Haliburton](#)  
with LaPointe's permission for *Pure Energy Systems News*

See also, [Acetone Data](#) • [FAQ](#)



Acetone ( $\text{CH}_3\text{COCH}_3$ ) is a product that can be purchased inexpensively in most locations around the world, such as in the common hardware, auto parts, or drug store. Added to the fuel tank in tiny amounts, acetone 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 fuel is far from perfect in today's cars and trucks. A certain amount of residual fuel in most engines remains liquid in the hot chamber. In order to be fully combusted, the fuel must be fully vaporized.

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

Acetone drastically reduces the surface tension. Most fuel molecules are sluggish with respect

### Acetone

A colorless, volatile liquid with a sweet odor. It is considered the least toxic solvent in industry. It can occur naturally. It is used in the production of lubricating oils, chloroform, pharmaceuticals, pesticides, paints, varnishes and lacquers. If present in water, it is more likely to volatilize or biodegrade before bioaccumulating or adsorbing to sediments. Acetone will also readily volatilize and biodegrade in soil. It is also a common laboratory contaminant, so its presence in a sample does not always indicate its presence in

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.

the environment. Synonyms - Dimethylketone and 2-propanone.

-- [Environmental Terms Glossary](#)  
(U.S. Military)

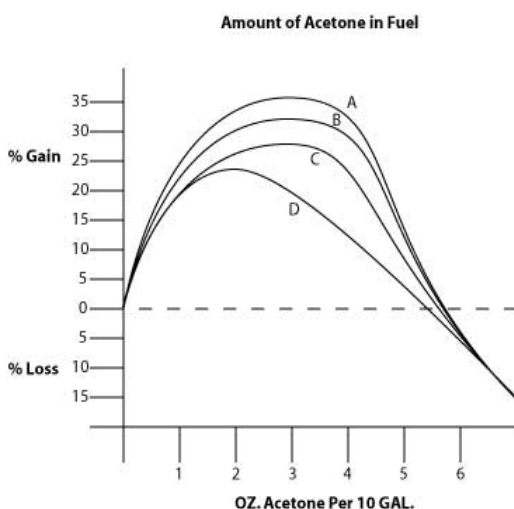
That excess fuel was formerly wasted past the rings or sent out the tailpipe but when mixed with acetone it gets burned, though the engine still thinks it is running straight gas.

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 are presently wasting. You might gain 15 to 35-percent better economy from the use of acetone. Sometimes even more.

**Additive:** changes the specifications of the base it is added to

### How Much to Use (The next paragraph modified to correct numbers)

Add in tiny amounts from about one part per 1330 to one part per 440, depending on the vehicle -- just a few ounces per ten US gallons of gas. This comes to between 0.075 % to 0.225 % acetone maximum or approximately 1/13th to 1/4th of one-percent.  
i.e. 0.75 to 2.3 mls per litre or 1 to 3 ounce per 10 US gallons.



**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 decreases mileage slightly due to adding too much octane to the fuel. Too much additive would upset the mixture ratio because acetone (like alcohol) is a light molecule and tends to lean the mixture.

After you first find the best gasoline in your area, then try the acetone amount for your car per ten gallons, and if 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 one to three ounces of pure acetone

### Metric Conversions [calculator](#)

*One fluid ounce (US) is equal to 29 milliliters.* Ergo, a 100 ml. graduated cylinder would be a suitable choice for this project.

*Ten gallons (US) = 40 liters*  
(As there are three zeroes after the decimal point before you get to any numerals, I think that can be ignored to make the numbers easier.)

to obtain excellent mileage improvements. In a ten-gallon tank of diesel fuel, use from 1 to 2 ounces of acetone. Performance goes up too. Use about a half-teaspoon of acetone in the fuel tank of a 4-cycle lawnmower or snowblower. Or you can apply it with an eyedropper.

## Where to Get Acetone

The pure acetone label is the only additive suggested and is easily available from most drug stores in 16-ounce plastic bottles and in one-gallon containers from some large fleet 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 have been okay if they are pure but may not raise mileage except when mixed with acetone. However the aromatics also raise octane.

## Adding Acetone to Your Tank

When you fill up with fuel, note the number of gallons added, then calculate the right amount of acetone to add. Less is more. Remember all gasoline is different. Some will work better than others in the presence of acetone which is strictly a vaporization tool, rather than a fuel additive that alters combustion. The car computer still thinks it is running straight gasoline. None of your settings are altered. None of your engine parts are affected. Check out [ScanGauge](#) for an inexpensive MPG device.

Some stores sell acetone in metal cans of various sizes, which are safe to keep indoors. However, it is difficult to pour from these cans, which have a flat top and short neck from which spillage is inevitable. In any case, while handling acetone, you should be wearing rubber gloves.

One option is to get a small graduated cylinder (available from science supplies store or some pharmacies). The small ones have larger intervals between markings so that it is easier to fill them to the level desired. The narrow cylinder can be held to the neck of the can to catch all drips. Then from the cylinder you can pour neatly into the tank. The small pouring spout suitable for laboratories prevents drips onto the paint.

Being etched with neat lines at each milliliter, these graduated cylinders are also good for measuring precise amounts -- in ounces or milliliters.

## 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 and your truck or car runs smoother.

Acetone can reduce hydrocarbon emissions up to 60 percent. In some older cars, the HC readings with acetone in a 1986 GMC went from 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 can damage the fuel filter. Change that fuel filter every year to protect injectors.

**Note** that the UK/Canada old imperial system is not the same as US imperial measurements:

- **Gallons (UK)**  
A British imperial capacity measure (liquid or dry) equal to 4 quarts or 4.545 liters.
- **Gallons (US)**  
United States liquid unit equal to 4 quarts or 3.785 liters.

-- [Mary-Sue Haliburton](#), PESN

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 (with burns all over me) 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, gasoline alone can also dissolve asphalt and most plastics.

Never allow skin contact with it. It may 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, as is gasoline. 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. Read all the precautions on the labels.

<p><b>Acetone and Your Engine</b></p> <p>Acetone is known to deteriorate cheap plastics and other substances. While the components in a car's fuel system should be of high quality, and thus immune to any deleterious effects from exposure to acetone, be aware that "ideal" is not always the case in practice. Be advised that not all systems have been tested against acetone. Until such thorough testing has been accomplished and certified by a accredited authority, you assume your own liability for experimentally testing acetone in your particular system.</p>
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**No Issues with the Engine Parts**

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. I presently have parts soaking in 1, 2, 5, and 10 % acetone/gasoline mixes as well as just gasoline. That is 20 to 200 times too much just to be sure. The 30R7 rated parts are in perfect condition. All my tests have been run with Texaco gasoline. I tested the gas stations in my area to FIRST find the best gasoline BEFORE putting acetone in the tank. But I have no idea from a pragmatic view what other gasolines do except that when I attempt to use them, my MPG drops like a rock. So for purely monetary reasons, I run the best available gasoline. When my dyno is built this summer, I will test all the gasolines in my area and publish the results on the web. I hear from engineers out West that Chevron gas is very good. I used it and it was fine during trips to California. I attach more credence to engineers who report things of interest to me because of their training and knowledge of testing methods. You may want to look up *Science and Testing Methods* in my site.

**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. Alcohol is no good in fuels. In Brazil, millions of engines and fuel systems were ruined by alcohol. Yet they are talking of doubling the amount of alcohol in gasoline.

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 my Neon, it frequently has cut the MPG in half on trips when I take pot luck at the pump.

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

## **Has Not 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.

TYPICAL PERCENTAGE GAIN FOR MLS OF ACETONE ADDED PER LITRE OF FUEL

