

Stockpile Your Gasoline for Emergencies

By Joseph Parish

There can be no doubt in anyone's mind the value of retaining a good stockpile of gasoline when the SHTF. This action could very well put you one step up on the ladder to survival. During emergency conditions your generators, automobiles and trucks will require this essential fuel in order to function. In all reality, the very core of your survival will hinge upon possessing a viable supply of gasoline when needed. The bad part of this scenario is that gasoline does not normally store well for an extended period of time. Unlike food which we can reliably store for up to 20 to 30 years, gasoline does not offer us this beneficial option. This presents us with the dilemma of how to suitably store our gasoline supplies for long term storage.

To come to an equitable solution to this problem we must first comprehend a few scientific facts relating to gasoline. Gasoline is a complex chemical substance consisting of a host of different hydrocarbons. When distilled at the refinery the petroleum is mixed with an hodgepodge of additives to augment and enhance the performance of the product when used in your vehicle. The volatility of gasoline is actually a result of all these added chemicals which tend to produce evaporation rather quickly. Remember, it is the vapors rather than the liquid gasoline which is burned and utilized in the combustion engines we have so come to rely upon. It is these vapors which make the gasoline so flammable and reactive.

Certain portions of the gasoline compound tend to oxidize and mix with the available oxygen thus creating yet another combustible compound. The newly created compounds may not be as reactive as expected and they could cause difficulties with your car engine. The specific problem is that the compounds congeal and create a gum like substance which is capable of fouling up the vehicles fuel injectors as well as its fuel filter. These undesirable features of gasoline are able to be effectively filtered out making the remaining product useable. Water also makes gasoline go sour. As the gas heats and cools it produces condensation not just on the outside of its container but inside as well. As this water condensation mixes with the gasoline it tends to reduce the reactive capacity of the fuel.

When we purchase gasoline at the local service station, we are typically buying a 10 percent blend of ethanol and gasoline. This is good for extending the life of the fuel however from my experience this tends to rust gasoline tanks when sitting idle for a number of months. This was a problem I encountered when I once purchased a van. The previous owner had let the vehicle sit for months and after I purchased it I soon discovered it would drive for a short period of time and then it would stop operating completely. After paying a considerable amount of money trying desperately to find the source of the problem it was revealed to me that the 10 percent ethanol included in the fuel had tended to destroy and rust the fuel system components. To repair the van would have taken replacing the tank as well as any associated parts. Since ethanol is so corrosive many

fuel tankers have forgone painted the surfaces and now make the tanks from shiny stainless steel. Additionally, gas stations around the country have been rapidly replacing their underground storage tanks due to the corrosive characteristics of the new fuels. Some automotive manufacturers have even gone to substituting a heavy-duty plastic gas tank in place of the all familiar steel tanks from past years.

On the bright side, we know that ethanol has a tendency to pull water from the air so strictly speaking it should act as a preservative with our gasoline. This appears to be a "catch-22" situation here and it would seem that under these conditions it would be near impossible to store this vital fuel for any prolonged period of time. In the event that you decide to try and store your fuel if at all possible, never use gasoline with the ethanol in it. I know, this is easier said than done since most gasoline today purchased at the service station contains ethanol. That totally kills the thought that for long term storage one should use ethanol-free gasoline. While stabilizers, which we will mention later in this article, will help to improve upon the shelf life of your gasoline storage the fuel will still end up getting stale and cause gum deposits in carbureted engines. If you are going to spend hard earned money to store gasoline for emergencies than by all means do it right and store the highest quality gasoline you can find. With that said however there are specific actions which you can take that would allow you to store gasoline for several month or even several years.

Gasoline should be stored in completely airtight plastic or metal containers. Since the ethanol causes rust formation, I would suggest using plastic ones. There are advantages and disadvantages to both types. The plastic gasoline cans frequently allow small quantities of oxygen to enter the stored product. The plastic seals used with the plastic containers produces what is known as a mold line which runs along the sealing surface. The metal containers do not have such a mold line and employ rubber seals. Gasoline was shipped to the overseas troops during World War II in the familiar looking military five-gallon Jerry cans. Since these cans sealed very well, they could sit in storage for months upon months and would remain potent until needed. For home emergency use one could use 55-gallon drums that are tightly sealed and contains a non-sparking brass valve. Use Teflon tape on all seals to ensure there are no leaks which would allow air in. Keep [the container completely full so that air will not be built up inside to react with the gasoline. This aids greatly in reducing evaporation, oxidation or the presence of water contamination. If you are storing your fuel in a common gas can do not fill it completely up in order to leave a bit of space for expansion during warm weather conditions.

Always store your gas outside the home in a cool, dry location. As we did in the military a metal storage cabinet could be employed to assure a safe and consistent environment for your fuel. People in hurricane prone areas have stored gasoline for years in order to be better prepared for potential emergencies. They suggest adding fuel stabilizer as mentioned below at double the recommended strength on the bottle. The fuel is than stored above ground in a ventilated storage building on wooden shelves. All vents employed for the building should have screens installed to keep insects and rodents

out. Several grounding rods should also be installed on the buildings after all with the approach of a hurricane one can expect the arrival of thunder and lightning. The fuel is stored in regular 5-gallon plastic containers specifically made for gasoline. When stored in this manner the fuel should last for a period of 2 years without any rotation. Never but never consider storing gasoline in your basement especially near your heating unit.

we mentioned in the paragraphs above if you are so inclined you could extend your gas life by the addition of popular fuel additives like Sta-bil. The claim by the company is that such an additive will extend your fuel life by as much as six to 12 months. Another additive known as PRI-G comes in a quart container and has been claiming to preserve gas for up to 12 years however I cannot confirm this fact. Still yet we encounter another stabilizer that has been brought to my attention from the Starbrite Company and is known as "Startron." The principle behind these stabilizers is that certain chemicals within the gas mixture may have evaporated and are thus replaced by the addition of the fuel stabilizers.

An interesting fact about ethanol and gasoline is that they simply do not bond together very well. In fact, when mixed they immediately begin to separate as soon as the mixture has stopped moving. When fuel trucks transport gasoline they generally have a separate compartment to hold the ethanol in and it is slowly mixed together as it is being pumped into the storage tank at the service station. It would therefore stand to reason that if you are storing gasoline at home for an extended period of time than prior to use it would be vigorously shaken up or stirred extremely well prior to its use.

Gasoline should never be store within an uphill location since the fumes are heavier than air and a leak would cause the fumes to ignite from as much as 50 feet away. When you store gasoline for a long period of time it is wise to rotate your gas supply. First in - first out is a good rule to follow. A good guideline to follow is every month use about 10 gallons of your supply and immediately replace it with fresh gasoline. By following this procedure, you will be assured of a continuing supply of fresh and useable gasoline. Be sure to filter your stored gas supply when you use it in order to remove oxidized solids which may have formed. The simplest means by which you can filter your gas is to use a funnel with a coffee filter placed inside and gently pour the fuel through it.