

Home chemistry basics - you may want to get some of these supplies now

Chemistry. Say the word, and the average survivalist might cringe. It brings up memories of a boring teacher in high school, or images of mad scientist lab with all sorts of beakers and tubes and glassware or long complicated formulas with strange symbols.

In reality, chemistry can help every survivalist have an ace up their sleeve. It's just a matter of knowing a few tricks of the trade. You don't have to know how to build a rifle to fire it well, or how to run a large farm to have a garden. It's a matter of fundamentals, of simple things right there in front of your eyes.

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There has been talk in SurvivalBlog and in books about some aspects of this idea from articles about stills and making your own drinking alcohol to biodiesel. You can read about soap making, and learn about lye. But, what is left out is, where are you going to get the materials to do these things? All of these articles presume a level of social collapse or destruction to put you or your group on a high self sufficiency level, not a 2 weeks and we get back to normal production situation, but do not take the next step to help the average survivalist find what they need.

For the purpose of this article, I create the following scenario: You and your group have emerged from the initial danger period. The looters have for the most part been driven off, gone away, died off, or are not a high level threat. But, there will be no normal level of re-supply or production for any foreseeable future if at all. And while stores have been looted, there may still be a number of valuable items to look for, if you know what they are and what you can do with them and it is assumed you don't have any of these items on hand. Now is the time for a forage party to head out.

The first thing to look for is the "tools" of the trade, starting with a still.

A still is key for making drinking alcohol, along with its use in distilling water. You can find plans for all types in many survival articles and books, but for this purpose I will keep it as simple as I can, literally. Yes, a standard #10 juice can opened in the traditional manner by a "church key" leaving a triangular opening on each side. Next you need a number of items that if you find them, take as many as you can carry. First is a metal tube. You'll find one, if no place else, in any electric percolator in any looted store. No one would take one of those. Next is a little trickier. You need a candy thermometer. Odds are no looter wanted one of them and you'll find it in your house wares section of a number of store chains. Now, look for rubber tubing with the inside diameter to fit over the metal tube. This you can find at the auto section or an auto supply store. Do NOT use them from any vehicle as they have carried in them poisonous materials. Lastly, you need a

child's toy plastic bucket, or if nothing like that can be found, the bottom of an empty bleach bottle.

Assembly is easy. Place whatever is to be distilled inside the can. (Picking up a few funnels along the way wouldn't hurt any.) Cut the metal tube to a 2 inch piece. Put the rubber tubing over 1 inch of the tubing. Place in the other triangular opening so that the rubber tubing seals it also. Now, the placement of the candy thermometer will vary with the type. If it is a spike/dial version, plug the one triangular opening with a cork, or piece of doubled rubber tubing, and stick the thermometer directly through the can lid. If it is a board mounted type, remove it from the board, insert through a 1 inch piece of the rubber tubing and place in the triangular opening so that you can see the 200 degree mark.

If you are using a gallon bleach bottle, cut the bottle at the point where the neck meets the bottom. Save the top part; it also is useful as a large funnel. With either container, make an x cut in the side about ¼ inch from the bottom a little smaller than the outside diameter of your rubber hose. With one end of the rubber hose attached to the can, push the other end through from the inside; the hose will seal the hole. Coil the rest of the hose in the container. Add water for cooling. The water need not be drinkable. Put the can over your heat source, be it a grill, a wood fire, or a camp stove burner. Plan on making different stills for different purposes, as some will be for items you will consume, such as water or drinking alcohol, others will be for poisonous, but useful items.

In the pet supply section, look for an air stone used in aquariums. It is a short tube that leads into a porous stone end. Take any plastic tubing and connections there are. If you find any coffee filters--the ones used in the coffee makers--buy as many as you can, as well as any Pyrex measuring cups and glass bowls you can get. And from the hardware or automotive section, try to find a pair of goggles or a face shield.

While there are even more items to be found for your "lab", these will do for the purposes of what you are about to make.

As it has been written about in numerous places, you can make your own alcohol. But fermenting a "mash" out of various scrap items and yeast takes practice. While you are getting the hang of it, you need not go without. Even if you and your group don't drink, alcohol has many other uses from medicinal to trade goods and is an ingredient in biodiesel also. So then, where to get it?

The looters would have stripped any liquor from any bar, or store. But, if you go to your dollar type discount store and check out the back storage area, odds are you will find a case or two of cheap mouthwash which is about 20% drinking alcohol (40 proof give or take). This means a pint (16oz) is about 3 oz of somewhere near 180 proof. Add that 3 oz to 5 oz of water and you have 8 oz of somewhere near 60-70 proof. If you use a quart of cheap mouthwash, you can get a pint. Remember this is "meatball" chemistry; we don't try for anything near lab standards.

But, how do you get it? Ah, to the still! Add the mouthwash, and place over the heat source. The trick here is to get the mouthwash to about 200 degrees F., so the raw alcohol evaporates but not 212 degrees, so the water does not . Depending on your heat source, this can be done a number of ways, usually using blocks or bricks to get the right level. Use a measuring cup on the other end to receive the fluid and stop when you get near 3 oz. for the pint and 6 oz per quart. (Add 10 oz of water for the 6 oz)

Now in soap making, you'll find lye mentioned. It is also an ingredient in biodiesel making. So then, how to get it?

The first place to look is in the drain cleaner area of the stores and look for cans marked LYE. Wear rubber gloves in case the cans or containers have been broken open as lye will severely burn the skin. But, if for some reason you can't find any lye, you can revert back to the pioneer days. Take wood ash, place in a non metal bucket or your bottom of the bleach bottle after you first make your x like for the still, and place a short 2 inch piece of rubber tubing in it. Then pour 2 quarts of water, clear but not necessarily drinkable, in from the top. Use a plastic bucket to receive the fluid that comes out. This will be lye, so treat it with respect!

Even this method has its limits, as there may not be that much wood ash available after the first two or three productions. What then?? Well it's time to go "shopping" to your nearest building supply center. What you are looking for is lime, also known as slaked lime or hydrated lime. You will find it in as large as 50 lbs bags, and I doubt any looter would have touched it. If none is there, you can use quicklime. Then it's off to your various stores, especial your dollar type discount store. What you are looking for is plain washing soda (Sodium Carbonate or Sodium Bicarbonate). There are a number of store brands along with the familiar name brands. Look around now so will recognize it later. Take all you can find.

With your rubber gloves, and your goggles or face shield on, you are ready to mix the ingredients. If you use quicklime, you have to mix it with an equal part of water first. BE CAREFUL! This mix gives off a fair amount of heat. Mix the lime and washing soda together with an equal amount of water, example 1 cup lime or quicklime in water + 1 cup washing soda + 2 cups water (1 cup if you have used the quicklime/ water mix) in a large 4 cup Pyrex measuring cup. Heat slightly while stirring. Once the lime, washing soda, and water are well mixed, there will be created a liquid (Lye) and a solid (Calcium Carbonate). Using an empty, clean plastic milk jug and a funnel lined with a coffee filter, slowly pour the mix in. The filter paper will trap the solid, which you can let dry and store in any glass jar with a lid. Using this method on a large scale you can get a lot more yield than by wood ash.

Last, but never least, is liquid bleach.

For a time it will be generally plentiful and available, but what then? Once more we go "shopping" for the two items we need. The first is sold under the trade name Saniflush, and can be found almost in every store in the drain cleaner section. There are others also

that can be used, but you can spot this one right off. Next is a variety of powdered bleaches or pool chemicals that have chlorine in them.

With your rubber gloves on, mix one cup Saniflush in an equal amount of water in a 2 cup Pyrex measuring cup. BE CAREFUL, this also heats up. Pour it into a clean plastic milk jug. Get a cork from an old wine bottle, clean it and make a hole in it for a plastic tube. You can use the tube from a plastic eye dropper with the dropper end cut off. Then, take your rubber hose and add to one end your air stone, and put the other on the plastic tube. Place the air stone end into a small plastic tub. Put into the tub a mix of 9 parts water to 1 part lye. Now, carefully crush the pool tablets into a fine powder, or use already powdered bleach and with a clean funnel add one cup to the Saniflush mix. QUICKLY cork the jug as the chlorine gas is immediately released! The gas will bubble up into the lye water creating bleach. As this is “meatball “ chemistry, it will be a lot stronger than your regular store bleach.

Now you have some “building blocks“ to play with. With your lye, you can now make soap if you have the animal fat. You can also experiment with a form of biodiesel with the lye, alcohol and old cooking oils. Then, there is an important item you can make easily. Take one part bleach and one part alcohol and simmer in an open container, such as an old pot. No cover will be needed but be careful of the fumes. This should be done in the open or with plenty of ventilation. Let it heat until you can see some small surface stirring, but do NOT let it boil. Continue for 5 minutes. The result is Chloroform, valuable in many emergency medical situations.

In summation, there are many usable items overlooked in the survival area because of the belief that you have to be a chemist to know, use or make them. While there are many articles on homemade explosives, there are fewer on non-weapon improvised chemical uses. Used C and D batteries, for example, can provide a number of valuable chemicals. For those of you who would like to learn more, I refer you to The Golden Book of Chemistry Experiments, a book written for an 8th grade level reader, now out of print, but available as a download on eBay and other sources.

It has been said, your mind is your primary weapon for survival; feed it with basic useful knowledge.

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