

The following information was published in a pamphlet provided by the makers of Powermaster Hobby Products, Elgin, Texas. Although there is nothing really startling in the publication, it is a clear concise explanation of how to store and maintain your glow fuel.

## **FUEL FACTS**

During the Q&A pan of countless "Dog & Pony Shows" at hobby clubs all over the U. S., one of the frequently asked questions is, "What's the shelf life of fuel?" The answer is both simple and easy: Properly stored, model engine fuel will last almost indefinitely. So... what constitutes "properly stored?" Let's take a look.

Contrary to many things you might have read or heard, just about the only thing that adversely affects model fuel is the absorption of moisture from the air. Keep the air away from it, and your fuel will likely be potent longer than you are! Methanol - the major ingredient in model fuel - is hygroscopic. This means it's virtually 100% soluble in water, and absorbs moisture from the air like a vacuum cleaner sucking up dirt

Most modelers have no idea how rapidly this can - and does - happen, and tend to be rather skeptical about the idea. Let me paint a picture for you: Almost everyone has spilled a little fuel on the top of their fuel can in their flight box. If so, you've no doubt noticed that the shallow film of raw fuel takes on a cloudy, milky look. What you are seeing is the methanol sucking moisture right out of the air. Since the quantity of fuel is thin with a lot of surface area, the absorption is rapid, the water won't mix with the oil and the fuel turns cloudy. Just remember how quickly this happens . . . almost immediately. . . and it might give you an idea of just how quickly your fuel can be ruined if you leave the cap off, allow a vent tube to remain open, etc.

The wide surface area relative to the quantity of the fuel exposed is disproportionate, of course, to leaving the cap off the fuel jug, but you get the idea. In a humid condition such as exists in parts of the U. S., it doesn't take very long at all to adversely affect your fuel. And it doesn't take a large opening. . . a cross-threaded cap, a small vent line, etc. is all that's needed to do the damage.

The solution is simple, of course. . . just keep it tightly sealed. And yet, sometimes that's not enough. Most of us have seen small droplets condensed inside our fuel jugs after it's become partially empty. This is the result of condensation of moisture as the air trapped inside the jug cools. Until recently, there was little we could do about this, but there is now a method to take care of this problem. POWERMASTER FUEL SAVER is an aerosol can containing an inert, non-flammable, non-toxic, nonpolluting, heavier-than-air gas. At the end of each flying session, simply "spritz" FUEL SAVER into the fuel container for about one second, and then seal tightly. FUEL SAVER completely displaces and replaces the moisture laden air, and the fuel will be factory fresh until opened again.

For the reasons above, it's our opinion that it is rarely a good idea to buy model fuel in 55-gallon

drums. Unless all the fuel is poured up the first time the drum is opened; a substantial volume of air is trapped inside the drum each time it's opened. Steel containers of any kind warm and cool much more readily and rapidly than plastic and condensation is much more evident in this type of container. The result is that the last portion of the drum of fuel is quite likely to be contaminated with moisture, sometimes to the point of being unusable.

There is another downside to buying fuel in drums, especially if more than one person is using it. With no control over the type container the fuel is dispensed into. . .perhaps not bearing sufficient or proper warnings, etc., the liability is incredibly high if an accident of any sort should occur. Model clubs considering this type of fuel purchase for their members should be particularly aware of the potential liability . . . which is huge!

While it's true that the UV in sunlight (or in fluorescent lights, for that matter) will cause pure nitromethane to deteriorate over time, it's our experience that once the nitro is in solution and substantially diluted, the deteriorative effect is relatively minor.

To test this, some years ago we put a gallon of 10% fuel out in direct sunlight (In sunny Southern California) for a month. At the end of that time, we tested that fuel in an engine vs. fresh product and could see no difference. While it certainly won't hurt anything to store fuel away from the direct sunlight, etc., it's our personal opinion that the adverse effect of sunlight on fuel under normal operating conditions is too little to worry about.