



Chemicals in the Boat Shop Or Are Boat Restorers Chemically Dependent?

One day I was trying to arrange the cans of chemicals I needed handy on my work bench to determine what I could put away. I became aware of how many different types of liquid chemicals I have in my shop used in restoration work. I had never really given it much thought of how I depended upon so many chemicals. I found I couldn't put many of them away, because I use them all regularly. There at hand was naphtha, lacquer thinner, denatured alcohol, acetone, paint thinner, paint stripper, cyanoacrylate, epoxy - thick and thin, water based glue and more.

The thought came to me that there must be a lot of hobby class/amateur restorers who haven't thought of using some of these chemicals for their work. Let's review the above mentioned chemicals and see how they can make your restoration work easier and more successful.

Naphtha - a petroleum distillate that has many uses in common products having to do with production of fuel, cleaning, and oil based paint to name just a few. Health hazards exist with naphtha though they are generally minor. You certainly don't want to breathe it long term as it will affect your lungs and nervous system in negative ways. Long term contact with the skin tends to dry it out. It is also extremely flammable. Regardless, naphtha is a great chemical to have around. It has a high evaporation rate and is great for cleaning just about anything that is of an oily nature - i.e. oil, grease, wet stain, varnish or paint, finger prints, etc. It does not attack or melt plastic or vinyl. It is also used as a solvent for thinning stain, varnish, and paint, although it does not soften stain, varnish or paint after it is dry. Great stuff. You gotta have some in your shop.

Lacquer thinner - a bit more aggressive solvent and a little more dangerous to your

health. It is made from tree sap and is generally used for thinning lacquer based paints. It too presents a health hazard when exposed in prolonged or repeated conditions negatively affecting many areas of your body. Uses for it besides thinning lacquer include using it as a wash when stripping varnish or paint and cleaning greasy/oily items. Certainly there are other uses also that will become apparent as you use it. Keep in mind that it will melt styrene plastic and affect vinyl negatively when it makes contact. If for nothing else, a little lacquer thinner poured onto a shop rag can give the shop that "worked in" scent which is particularly pleasing to the men's olfactory system - not so much for the women's, for some odd reason.

Acetone - this is a colorless liquid which is very flammable and evaporates very quickly. It has a surprisingly low health risk and is found in minute amounts in many of our common foods. Common sense says that we should not be exposed to it in great quantities for prolonged periods of time, nor should we directly ingest it. It has a couple of unique uses in my shop. First, an open can of Famowood will dry out rather quickly. Adding and mixing acetone to Famowood will bring it back to working consistency. When spot filling dings and holes in the boat hull with Famowood, a halo of Famowood will stubbornly remain in the grain around the spot after the filled spot has been sanded flush. If stain is applied over the halo, it will become an ugly blemish in the stain job. A wipe down with a paper towel and some acetone will greatly reduce or eliminate the halo and less sanding is required to bring back only wood. The other minor use I have for it is to unclog my cyanoacrylate glue tube. Soaking the nozzle of the glue bottle in acetone will soften/dissolve the glue for removal. (This glue will be described later in the text.)

Denatured alcohol - this is ethanol which has been made undrinkable by poisonous additives including naphtha. It has health risks also when exposed long term or ingested. A rag lightly moistened with denatured alcohol will help clean the surface of remaining sanding dust and debris after it is washed with water. It will actually soften varnish if applied to heavily which is why it should not be used to clean sanded varnish dust from the hull. It will melt the little specks of dust and they will bond to the softened varnished surface. The result is a clouded finish that is difficult to bring clear again with subsequent coats of varnish. Another use for denatured alcohol is to dilute dyes used in coloring the boat.

Paint stripper - a concoction of aggressive



chemicals used to soften paint and varnish. This is a dangerous chemical. Breathing its fumes will do funny things to your head, lungs, and other parts of your body. Getting it on your skin creates a painful burning experience and you certainly don't want it in your eyes. Good advice to follow is to have a small pail of water and towels available when working with stripper to wash any affected areas. Rubber gloves, a chemical mask, and old clothes are in order here.

I buy all of the above chemicals in gallon cans. Rather than carrying around a gallon can at the job location, I keep smaller quantities, except for the paint stripper, in labeled, pint-sized plastic bottles with sealable tops.

Paint thinner – this thinner is Interlux 333. Until I found this great liquid, a smooth varnish finish was a challenge to produce. This product is a slow evaporating solvent that allows the varnish to flow better and retain a wet edge longer. Also, I use it, along with naphtha as the main thinner, in paste filler stain to allow greater working time to rub the stain out evenly.

Cyanocrylate (CA) –the fancy name for super glue. It is a hazardous chemical in a number of ways as it is an irritant to eyes, nose, and respiratory system. Be warned that prolonged and repeated exposure can have a cumulative effect on your respiratory system. Symptoms will be stuffy nose and or difficulty in breathing which can last for days. Once sensitized, future use can immediately bring about health concerns realized earlier. Use this chemical in a ventilated area, or use a chemical mask if you feel you are at risk. The other hazardous characteristic of CA is that you can easily glue yourself to your project if you are not careful. Not to worry, though, as our friend acetone will soften the super glue and will allow release of its holding power. A unique use for CA is to glue down the loosened varnish around a bung or seam where you will see a “yellow” area. Using the thin variety of CA, lay a small amount at the edge of the loosened varnish and it will wick under the varnish and glue it to the stained wood base underneath. As long as the wood is healthy (not rotten or soft) the yellow edge will disappear and the varnish will be locked in place. If there is a spot with no varnish, say over a bung, the thick variety of CA can be used to build up the “finish” to the surrounding varnish. Over that, varnish can be applied. The advantage of its use over repeated varnish coats or epoxy is that the build-up can be accomplished in minutes instead of hours or days. The end result is a problem that has gone away.

Epoxy –a two part adhesive well known

for bonding two items together with great holding power and resistance to the affect of other chemicals once cured. Chemicals that make up epoxy are dangerous when in repeated contact with your skin. Of course, keep epoxy out of your eyes and mouth as well.

Another epoxy is the Smith's Clear Penetrating Epoxy System (CPES). It too is a two part composite of chemicals, but is not intended for bonding, rather for sealing wood from the ingress of water. It has a very strong smell and has potential for negative health issues.

Please note the following! All of the above have been noted to have negative effects on your health. Under extreme and repeated conditions of exposure, these chemicals can certainly do damage to many parts of your body's working systems. It is always best to read labels, or better yet, go to the Internet and Google the particular chemical you intend to use and learn of its health hazards and protect yourself in its use accordingly. Use of a chemical mask available at home improvement stores comes to mind as a good idea.

Water based glue – a water-proof aliphatic resin used primarily to glue wood pieces together. I use Titebond III in my shop for gluing in bungs and repairing cracks in planks. It is not particularly hazardous chemical although health warnings on the bottle should be read and understood for yourself.

And last to portray, but not least, is dihydrogen monoxide – a chemical compound. It is great for cleaning, dust control, and is certainly a refreshing drink. It is water. This chemical compound is so taken for granted, we forget how great it is. With a rag moistened with dihydrogen monoxide, sanded boat hulls can be wiped clean in minutes with no unpleasant odors or safety concerns. It evaporates rather quickly under most conditions and comes in abundant supplies from your local faucet. Use it freely to wet down the floors in the shop before you varnish to control dust. Also, pour it into the device called a humidifier in the winter months to keep the humidity up in the work shop. It will keep the boat project from drying out. Best of all, it is the best drink known to keep the human body hydrated.

So, that's a look at some of the chemicals that are useful in your restoration work. Use them with care. If you have any questions regarding any of the above or any restoration questions in general, feel free to contact me at 715-294-2415 or Heggensj@Centurytel.net. I look forward to hearing from you.

