



An HJS Studio Tutorial: Dye Safely with Synthetic Dyes



When I teach or talk about using synthetic dyes to color protein fibers, a common reaction is concern about how safe it is to use these dyes. At a time when it seems every synthetic substance that can be breathed, eaten, or absorbed through the skin has a reputation as being carcinogenic, I can understand the concern. But it doesn't keep me from dyeing the bold, bright, and beautiful colors quickly, easily, and inexpensively with synthetic dyes! I merely exercise common-sense precautions when working with these chemicals. I'll share those precautions here. Whether you use them is up to your individual assessment of the danger of synthetic dyes.

There's two main concerns I have regarding dyeing wool and other protein fibers. One is the dye powders, the other is the quantity of hot water. The powders get most of the bad press, but I personally feel the chances of a serious burn from scalding are more scary. I'll address both issues here, but bear in mind I'm merely collecting information from various places and providing it here. I can't claim to be the last word on safety issues in dyeing. For more information, see Pro Chemical and Dye Company's Studio Safety page on their website.

Dye Powders

I use dye powders exclusively in my work, as they are inexpensive and easily stored. They do, however, pose certain risks as compared to liquid dye substances. Many people feel they may be carcinogenic, for example. To my knowledge there's no proof of this, but it certainly doesn't hurt to take precautions. More frequently, dye powders, along with other light powders that can become easily airborne, are considered to have the potential to cause problems such as allergic reactions or asthma. Even here, the chances are not that great. But if you have a family or personal history of cancer, asthma, or chemical allergies or sensitivities, there are several things you can do to protect yourself, just in case:

- ❖ Use a mask of some sort when working with dye powders. Most chemical companies will also sell masks to protect users from inhaling airborne particles of powder. You can often find good masks at places like Ace Hardware—if you don't see them, probably in the painting section, ask. They can special order many things at no additional cost.
- ❖ Wear household rubber-type gloves to protect your skin from the dyes. It will also keep you from having rainbow colored hands, and will help prevent scalds if boiling water splashes on you, as long as the gloves are dry inside.
- ❖ Work where there are NO drafts—including from vents for heating and cooling. Good ventilation is a must, but you don't want breezes blowing over your dye powders. They



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are incredibly fine and light and will coat areas you wouldn't believe, if given just a little encouragement.

- ❖ Don't eat or drink where you're working, and don't prepare foods or beverages where you are working. If at all possible, set up a place to do your dyeing that's NOT the family kitchen.
- ❖ Keep surfaces covered with dampened paper—newspaper works great. This will help collect those stray bits of dye powder, as well as protect your work surfaces from staining. I've found Soft Scrub with Bleach will take out most stains, but not all. Try it on an unobtrusive place, first, to make sure it doesn't damage surfaces.
- ❖ Label all your dyeing utensils, from thermometers to spoons to pots, so they won't be used for any food preparation.
- ❖ If you need to use acid in your dyeing, add the acid to the water, not the water to the acid. Strong acids can practically explode if water is added to them. Although I don't recommend using strong acids, it's a good habit to get into, to be on the safe side.
- ❖ If dye powders spill, use a damp paper towel for small quantities, or a vacuum cleaner for large spills, to clean up.
- ❖ If dye mixed with water spills, wipe up immediately. If it dries, the dye powders can become airborne again.

A Mixing Box

A good way to help prevent spills and flyaway dye powders is to make a mixing box. Find a box about 10 inches wide, deep, and tall—a little bigger or smaller is no problem. Cut off the top flaps, and cut down one side enough that your hands can enter the box through that opening but remain below the top edge of the box. Fill the box with a stack of newspaper or other absorbent paper, cut to fit. When you need to measure or mix dye powders, dampen the top layer of paper, place the containers of dye on the paper, and measure or mix over the paper. The paper will catch spills, while the sides minimize the powder's chance of becoming airborne. Carefully dispose of each layer of paper before it dries.

Boiling Dyebaths

More scary to me than dye powders is the possibility of accidentally pouring boiling dyewater over myself! Again, there are some commonsense precautions to take when dyeing fibers in pots of simmering water:

- ❖ Make sure the floor is clear of all obstructions—loose mats or rugs, loose kids or pets, spills or other slick spots, etc.
- ❖ Make sure you can handle that pot full of cold water before you heat it to boiling! If it's too heavy to comfortably handle when cold, you can bet it will be very difficult and dangerous when hot.



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- ❖ If you can, leave the pot to cool on the heating element. You can leave your fiber in the pot overnight for a deeper color and to minimize felting if you want.
- ❖ It's easier to pour a pot full of liquid into a large, deep receptacle if possible, whether hot or cold. A laundry tub is easier than a kitchen sink, for example.
- ❖ If you must pour the pot out in the sink, pour slowly and carefully. If you pour too fast, the water will splash back.
- ❖ Lean the pot on the edge of the sink, protected with hotpads or towels if needed. It's very hard to hold a large pot without it touching the edge, while you pour slowly, so make it easy on yourself.
- ❖ Make sure you have good, dry hotpads available to protect your hands, and wear rubber household gloves, too. If your gloves get wet inside, change them immediately. If water gets in your gloves, then your gloves have hot water pour over them, the heat will be transferred immediately to your skin.

All this sounds like chemical dyeing is a very difficult and dangerous endeavor. It's not really, I've found it both safe and easy, and very rewarding. Mostly it's just common sense and common care. I've never had an accident dyeing protein fibers with acid dyes, and I started back in 1986. There's no reason why you should, either, if you take the same care you would in using any type of chemical, or any pot of hot water.



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