CLEANING CRYSTALS

Cleaning crystal is a three step process. First the clay must be washed off the crystal. Second, the iron oxide film coating is removed in an oxalic acid bath. And last, the oxalic acid is washed off the crystal with fresh water. Sounds simple, but there are many ways to do each step depending on the type of crystal (points or clusters) and the quantity you have to clean.

Washing the clay off the crystal is not always as easy as it sounds, especially with clusters. Points are fairly easy to rinse with a garden hose. I do not recommend doing it in your kitchen sink because the clay can plug up your sink traps and plumbers are more expensive than your crystal. Most clusters have small cracks and crevices filled with clay. A pressure washer works best to flush out the clay. You can let the clusters dry in the sun for a couple days after washing to shrink the clay and pressure wash again. This process may have to be repeated several times. The cleaner the crystal the more effective the acid bath. Trapped clay prevents the oxalic acid from removing the iron film in that spot. The clay and iron oxide will also turn your acid green and eventually reduce its effectiveness. So do not rush the process and remove as much clay as possible before putting the crystal in acid.

Oxalic acid can be purchased in powder form at most drug stores, cleaning supply houses or rock shops. Prices will vary with quantity but expect to pay $2 to $4 per pound. Mix the oxalic acid with fresh water. The recommended mixture varies from one pound oxalic to two gallons of water up to one pound per five gallons of water. I use one pound per two gallons water. If you see funny green crystals growing in your solution you know you have added more oxalic than can dissolve in the water, you're saturated. This will not hurt anything, it just looks funny. Now you have to decide how fast you want to remove the iron oxide film off your crystal. If you are not in a hurry, you can let them soak in a plastic bucket in the sun for several days. If you are in a hurry you need to heat the acid. I do not recommend building a fire under your plastic bucket. An old crock pot works fine for the smaller crystals. Half of a fifty gallon drum will work for the bigger crystal. Set the drum on cement blocks and build a wood fire under it for a few hours. You can also use a propane burner to heat the acid. I do not recommend cooking your crystal on your kitchen stove and do not put oxalic acid in aluminum pans. The oxalic acid should be heated in a well ventilated area and wear rubber gloves if you stick your hands in the acid or OSHA might get you. And be sure to neutralize your acid with baking soda, lime, or ashes from your fireplace before disposing of it.

When you remove the crystal from the acid you should wash it thoroughly with fresh water. I use a pressure washer to help remove any clay residue. If you're not satisfied with the results, repeat steps one through three. I've had to clean small, needle point clusters as many as six times before I was satisfied with them. Some clusters have trapped clay that cannot be removed except with a hammer. You can get them clean this way but they do not look very nice when you're done.

Trick - The porous sandstone base of some clusters will turn green in dirty, hot oxalic acid. When the sandstone gets hot the pores expand and open allowing the acid to penetrate. When the sandstone cools the pores will close trapping the acid and turning

the sandstone green. One method of removing the green color is to re-heat the clusters in acid to open the pores, and while still warm, put them in warm soap water (dish washing soap works fine) to soak for several days in the sun. The soap water will neutralize the acid turning the sandstone base back to its normal color. It's best to use clean, fresh acid when cleaning clusters that have a sandstone base.

Another way to clean sandstone base clusters is to heat the clusters in clean water before putting them in the acid bath. This will open the pores an fill them with water. Then, when you heat the clusters in acid, the acid cannot penetrate the water filled sandstone. Soaking sandstone base clusters in cold (non-heated) acid for several days will also prevent most of the green problem.

For small crystal cleaning jobs you can use a product called "Iron Out". Iron Out is used to remove rust stains from sinks, bath tubs and toilets. Millard wrote, "Hello again, -- We had a lot of trouble finding oxalic acid in this part of the world, so we cleaned our crystals with a compound called "Iron Out" which is a bisulfate cleaner sold at Home Depot. It is normally used to remove iron stains from porcelain or water softeners, and is fairly cheap--about $3.90 for 18 oz. of powder. It was quick and did a very good job. We used about 3 TBS per cup of water and cleaned a few points at a time. Don't know how it compares to oxalic, but our finished points look good. One bottle did our bucket full."