

## Cleaning Specimens

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Here is the best way that I use to clean my specimens.

First, if you are not experienced with acids and chemicals, do not try this method of cleaning. There are dangers in using acid and only people with experience with safe handling should attempt this cleaning method on minerals. Wear safety goggles, nitrile gloves, and even an apron if one is available as the acid can cause severe eye damage and irritate and damage the skin.

Buy a crock pot that has a "warm" or "low" setting. You don't want to boil the stuff. It will make awful vapors and shorten the cleaning time for the specimens.

Place the specimens in the crock pot, add about two inches of water, and then add 4 inches of hydrochloric acid. If a larger batch is needed, add two parts of hydrochloric acid to one part water.

Muriatic acid is the same as hydrochloric acid. Muriatic acid is the name commonly found at hardware stores. It is usually 37 percent strength hydrochloric acid.

Cover the crock pot with a plastic lid, I use an old polyethylene cutting board as a lid. I don't like to use the glass lids that come with the crock pot as the metal handle comes off from the acid dissolving the screw.

Plug it in...and leave it on the lowest setting. It should be about 160 to 180 degrees Fahrenheit. Leave it sit like this OUTSIDE the house or garage. I prefer a week of hot soak, If you need to add acid or more water, UNPLUG IT FIRST AND LET IT COOL OFF!! Hot fumes of acid are most unpleasant.

After the hot soak in acid is finished, carefully pour the acid into a bucket for future use. Use care to not lose specimens into the bucket or acid might splash back. I hold the cover to the crock pot while pouring to prevent this.

Now that the acid is removed, I soak my specimens in clean water. This can be done in cold water, or in a low heat setting again in the crock pot. I let the specimens sit in clear water a few days and change the water out with fresh water. Do this several times and the specimens will come out clean. If they turn a yellow color on drying, repeat the clean water soaks until it goes away. Porous specimens take more clean water soaks than solid specimens.

When the acid is no longer effective, add baking soda to it outside. It converts the acid to sodium chloride...salt.

Remember, SAFETY FIRST! and good luck with the cleaning.



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