

TGA Alumina crucible cleaning procedure

1. Soak the crucibles in a mild soap solution and remove all loose solids, followed by rinsing with water.
2. In a fume hood, prepare about 20 mL of *aqua regia* by measuring 5 mL of nitric acid into a ~100 mL beaker containing dirty crucibles followed by slow addition of 15 mL hydrochloric acid. Soak the crucibles in the acid solution for at least 2 hours.
3. Pour off as much acid solution as possible into a waste container, then rinse once with water and collect that in the waste container as well. After that, rinse several times with water and lay out crucibles on a paper towel to air dry for an hour or so.

NOTE: do not cap a solution of aqua regia waste until the next day as it fumes NO_x and HCl vapor for several hours after being prepared fresh and the container may explode if capped.

4. Once the crucibles are mostly dry, heat them in a muffle furnace for at least 2 hours at $>1200^\circ\text{C}$.
5. Allow the furnace to cool to near room temp prior to removing the quartz tube and crucibles.