Gypsum - $CaSO_4 \cdot 2H_2O$

Hardness: 2. Cleavage: Perfect. Very soft; easily scratched, cleaved and bent. Avoid metal tools and vigorous brushing. Use wooden toothpicks or bamboo splinters with great caution. Brief sonication (ten seconds) tolerated; longer exposure causes etching. Slightly soluble in water (2.63 grams per liter at 25ºC; varying with temperature); enough so that prolonged immersion in water causes some etching and rounded appearance. Exposure to any water solution should be minimized. Specimen can be 'polished' somewhat by exposure to flowing water (toilet tank or cycled through ion exchange resin). Soluble to some extent in most acids. Soluble slowly in cold dilute HCl; somewhat faster in when hot. Decomposed by dehydration with concentrated H_2SO_4. Tolerates brief exposure to dilute NH_3 which can be used as a soak to remove clay. Derust with pure sodium dithionite, Jacquard Hydro, dilute oxalic acid or other organic acids. (Iron OUT, Waller's solution and Bridge's solution likely cause etching due to chelators present.) Slightly soluble in $Na_2S_2O_3$ (dithionite decomposition product) so minimize exposure time with any dithionite recipe. Avoid soaps and detergents as these may cause frosting. Although widely recommended, solutions saturated with various salts should be avoided as these will also slightly etch gypsum.

Varieties/related species (treat same as gypsum): Selenite, satin spar, alabaster (see also separate listing)

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