Cleaning glassware:

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| Water/soap/brush/acetone  | Normal use   | ◦ If simple rinse is not sufficient, try:  
◦ Degrease your glassware’s ground glass joints by wiping them with a paper towel soaked in a small amount of ether, acetone or other solvent  
◦ Place the glassware in a warm concentrated aqueous solution of Alconox, or other detergent, and let sit for several minutes.  
◦ Scrub.  
◦ Rinse w/ tap water followed by DI water rinse.  
◦ Acetone if needed. Air dry. |
| HCl                       | Intensive    | ◦ Start with 1M, go up to 6M if needed.  
◦ Great for metal-containing compound (ie. White powder coating flask)  
◦ Rinse many times with tap water.  
◦ DI water rinse, acetone, air dry. |
| Base bath                 | Intensive    | ◦ Great for organic residue.  
◦ No metal-containing compounds.  
◦ No fritted funnels, cuvettes, volumetric glassware  
◦ Remember to retrieve it in a timely manner (~ 1 wk)  
◦ Rinse many times with tap water.  
◦ DI water rinse, acetone, air dry. |
| Aqua Regia                | Aggressive   | ◦ 1:3 HNO₃; HCl. 1:3:1 HNO₃:HCl:H₂O if for storage.  
◦ Will dissolve gold and oxidize everything else.  
◦ Fumes, releases toxic Cl₂, NOCl or NO.  
◦ Cannot be store for long term.  
◦ Rinse with lots of water afterwards. |
| Acidic peroxide solution  | Aggressive   | ◦ 1:1 H₂SO₄: 3% H₂O₂ (don’t exceed 10%).  
◦ Add peroxide into acid.  
◦ Strong oxidant and reductant.  
◦ Rinse with lots of water afterwards. |
| Chromic acid              | Aggressive   | ◦ Dissolve 140g of sodium dichromate dehydrate in 100ml of water. Slowly add to 2 L of sulfuric acid while stirring. Keep cool.  
◦ Can be stored for years.  
◦ Wash with lots and lots of water afterwards.  
◦ Toxic, carcinogenic, tetratogenic & can cause environmental damage. Avoid use. |
| Hydrofluoric acid         | Aggressive   | ◦ Concentrated HF can remove everything.  
◦ Can etch surface of glass  
◦ Can cause severe burn. Avoid. |

Source: http://chem.chem.rochester.edu/~nvd/cleaningglassware.html