Cleaning Glassware

The conventional method of washing glassware involves soaking glass in a chromic acid-sulfuric acid bath followed by tap water rinses, distilled water rinses, and finally double-distilled water rinses. Due to the corrosive nature of chromic acid, the use of this procedure has been eliminated except for highly contaminated or soiled glassware. Adequate cleaning of most glassware for tissue culture purposes can be achieved by washing in hot water (70°C+) with commercial detergents, rinsing with hot tap water (70°C+), and finally rinsing with distilled and double-distilled water. However, highly contaminated glassware should be cleaned in a chromic acid-sulfuric acid bath or by some other proven method such as (1) ultrasonic cleaning, (2) washing with sodium pyrophosphate, or (3) boiling in meta-phosphate (Alconox), rinsing then boiling in a dilute hydrochloric acid solution, and then finally re-rinsing. Cleaned glassware should be inspected, dried at 150°C in a drying oven, capped with aluminum foil, and stored in a closed cabinet.

The following general procedure is recommended for cleaning glassware that contains media and cultures after all data have been collected:

1. Autoclave all glassware with media and cultures still in it. This kills any contaminating microorganisms that may be presents.
2. After the autoclaved media has cooled, but while it is still in a liquid state, pour it into biohazard plastic bags or thick plastic bags, seal, then discard.
3. Wash all glassware in hot soapy water using a suitable bottlebrush to clean the internal parts of the glassware. Any glassware that is stained should be soaked in a concentrated sulfuric acid-potassium dichromate acid bath for 4 hr, then rinsed 10 times before washing it with soapy water.
4. All glassware should be rinsed three times in tap water, three times in deionized water, three times in double-distilled water, dried, and stored in a clean place.
5. Wash all instruments and new glassware in a similar manner.

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