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**Applications Note:**

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## **Suggestions for cleaning laboratory glassware:**

### **Introduction:**

Laboratory procedures require exact methods and should include good glassware cleaning to insure excellent lab results. In all instances labware should be physically clean, including both chemical residue free and grease free, and in many cases even be sterile. All class A glassware that is used in precise measuring of liquids should have fully wettable surfaces. A good test is to use distilled water and see if the water wets all the inner surfaces equally. Grease or residues will not only contaminate the reaction and test results but will also alter the measurement of the liquids.

Good cleaning practices should also be accompanied by good inspection of the glass surfaces for chips, cracks or abrasions which will cause mechanical failure.

### **Cleaning:**

Always wash glass labware immediately after use. If a thorough cleaning is not immediately possible, always allow the glassware to soak. If not cleaned immediately some residues may be impossible to remove.

Most new glass is slightly alkaline and should be washed upon receipt and generally can be soaked in a 1% HCL or HNO<sub>3</sub> solution before wash and DI rinse.

Never soak for long periods in strong alkaline solutions as it will damage the glass.

Always follow up a soap or acid wash with a good DI water rinse.

Always use soft brushes with a wooden or soft plastic handle to avoid abrasion. Do not use wire brushes or brushes with a wire core as it can abrade the glass.

### **Glass cleaners:**

Alconox is the best as it's not abrasive. In fact they have a full line of detergents for soaking, hand washing and automatic washers. A detergent such as a non-abrasive dishwasher soap will also work well. Always use soft brushes. Always rinse glass well and do a final DI rinse. If you need to do an acid wash, always rinse the soap off the glass completely or it may cause a reaction and leave a film on the glass. There are many lab detergents available commercially such as; Mallinckrodt's KleanAR and Chem-Solv. Texwipe and EM Science also make good cleaning detergents