



Care and Use NMR Tubes — Recommendations

A. TO AVOID SERIOUS AND PERSONAL INJURY, AVOID ABRASIONS AND IMPACTS

Abrasions reduce the strength of glass, making it more susceptible to breakage under impact and/or thermal shock. Thermal shock may result from sudden changes in temperature or use on either a burner or hot plate. Serious injuries could result if breakage occurs while glass holds heated and/or corrosive liquid. Glass will break as a result of impact. Use care when handling to avoid impacting hard objects, such as spigots, other glassware, counter tops, etc.

B. RECOMMENDED GLASSWARE CLEANING AND HANDLING EQUIPMENT AND PROCEDURES

Proper Cleaning Procedure

1. Kimble Chase offers several styles of NMR tube washers:

897033-0003 5-place 3mm Tube Washer

897033-0005 5-place 5mm Tube Washer

897030-0005 Single-place 5mm Tube Washer

459960-0000 Single-place 10mm Tube, Cuvette, and Cell Washer

Other companies, such as Nu-Tech Ventures, www.nutechventures.org are developing or offering multi-tube washers as well.

2. Before use, rinse or clean the tube with distilled water and dry properly.
3. Empty and rinse reusable tubes as soon as possible after use. Always properly discard disposable NMR tubes as soon as possible after use.
4. Use of a fume hood is recommended when cleaning NMR tubes.
Popular cleaning solutions include acetone, distilled water, and methanol or ethyl alcohol, as well as organic solvents. Difficult cleaning jobs may require the use of mineral acid or fuming nitric acid soaks. Final rinses of distilled water or acetone are recommended depending on the intended use.
5. After cleaning, properly air dry or with a nitrogen gas stream.
6. Inspect tubes before each use and discard if scratched, chipped, cracked or damaged in any way.
7. Clean the outside of the tube in order to not introduce dirt or impurities to the probe or the internal mechanisms of the NMR machine.
8. Always store NMR tubes in dry, particle free environments.

Improper Cleaning Procedure and Use:

1. Never use chromic acid, or any caustic or alkaline solutions with an NMR tube.
2. Never dry tubes in an oven for more than 30 minutes at 125°C.
3. Never store tubes in an oven. Excessive heat can cause warpage.
4. Never use any tube that does not roll evenly on flat surfaces, or exhibits any physical abnormality.



5-Place NMR Tube
Washer for 3mm and
5mm Tubes

Cat. No. 897033



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