Sample Preparation Guide

The quality of results on the Eft NMR spectrometer is critically dependent on using appropriate sample preparation methods. For all samples:

- Use a total sample solution volume of 0.7ml (4cm liquid height).
- If the sample contains particulate matter, filter the solution through glass wool or cotton that is loosely packed in a Pasteur pipette.
- Use Wilmad 507-pp or equivalent quality sample tubes.

^{1}H Samples

- Sample concentration of about 5% or about 0.3M is generally appropriate.
- TMS or HMDS at 0.5% is sufficient to reference a 0.3M solution.

^{13}C Samples

- Neat (meaning 100% concentration) liquids will give good spectra in 1 minute and 1M samples will allow good spectra to be obtained in 5 minutes.
- TMS at 2% should be adequate to reference a 1M solution.

Sample Spinners

The sample spinner required depends on the type of probe being used. All Eft spectrometers (60 and 90 MHz) with 13C or broadband capabilities use the Aii probe

The sample spinner required depends on the type of probe being used. All Eft spectrometers (60 and 90 MHz) with 13C or broadband observe capabilities use an Aii probe and the Aii spinner (Fig 1.). Eft spectrometers with only 1H observe capability use the original magnet manufacturer's probe with the appropriate sample spinner. Spectrometer upgrades for Varian 360A or 360L systems use the spinner shown in figure 2. Spectrometer upgrades for Varian (plastic body probe) systems use the spinner in figure 3.. Proton only Hitachi R-Series systems use the spinner in figure 4. Note the correct orientation of the spinner on the sample tube. The position of the spinner is set with the appropriate depth gauge.

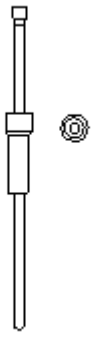

Fig 1. Anasazi

Fig 2. Varian A/L

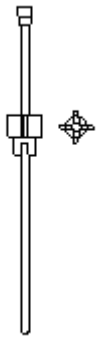

Fig 3. Varian plastic

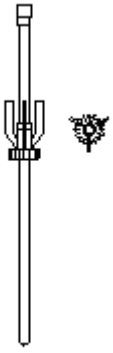

Fig 4. Hitachi