



CIL

Cambridge Isotope Laboratories, Inc.  
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SOLVENTS

# High-Quality Solvents for Cryoprobes

## Addressing the Needs of the NMR Community with the Latest Developments in Solvent Purity

Sample preparation has always been a very important part of NMR analysis. Minor contaminants due to dirty glassware or improper handling can lead to unidentifiable peaks in the NMR spectrum. These peaks may be confused with the peaks of the compound of interest or they may overlap with a resonance of interest. Trace components in the deuterated solvent may also give rise to unwanted peaks in the NMR spectrum. For most applications, Cambridge Isotope Laboratories, Inc. (CIL) solvents represent the standard of quality and routinely exhibit >99.99+% chemical purity.

However, with the advent of cryo- or cold probes, the demand for still higher chemical purity presents itself. With the added sensitivity of the cryogenically cooled probes, the limit of detection has decreased to the point where metabolites in the nanomole range can be observed. This also means that microgram quantities of trace components in the solvent may interfere with spectral interpretation. CIL has addressed this issue to further improve its solvents' chemical purity. Shown are 600 MHz NMR spectra of several CIL 100% solvents. These data were acquired with 128 scans using a TCI cryoprobe at Bruker Biospin in Billerica, MA. Samples were prepared in precleaned Wilmad 528 pp NMR tubes and sealed under vacuum. The spectra show a level of purity that is acceptable for most cryoprobe applications.

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