



## Handling Instructions for Gas Standards

These instructions apply to all gas compounds (boiling point < 20°C) prepared in solvent or oil for use as quantitative standards.

- **Place all gas standards in freezer storage as soon as possible after they arrive.** While the gases should not escape from the ampules at elevated temperatures and should re-solubilize into the solvent over time under freezer conditions, it is best to keep the standards at a cold-temperature equilibrium state.
- **Work with gas standards cold.** As these standards warm up, the gases escape quickly, and since the standards ampules contain relatively small volumes, they warm up quickly after removal from the freezer. While cold blocks are commercially available, they are not sized for autosampler vials or headspace vials. A cost-effective way to work with these standards cold is to use a large bag of frozen peas or corn folded in half to hold vials while they are out of the freezer:



- **Transfer standards to autosampler vials:** To keep gases from escaping, immediately transfer gas standard to pre-chilled autosampler vial after cracking the ampule, and immediately cap. Recap immediately after using.
- **Work QUICKLY:** The faster these gas standards are settled safely in a capped headspace vial the better. In general, it is preferable to use syringes to deliver small (< 10µL) volumes, however since time is of the essence, an autopipetter may be used. For volumes of 10µL or less, a 1 – 10µL pipetter is recommended. Do not attempt to deliver volumes < 5µL even with an autopipetter. This will result in inconsistent results. For a dilution scheme for FET calibration using these gas standards, see the [Residual Solvents Analysis Protocol](#).
- **Contact Tech Support:** email [techsupport@emeraldscientific.com](mailto:techsupport@emeraldscientific.com) for extra help