

Method Abstract #90

Ammonia by Standard Addition

Scope and Application

This method determines the ammonia concentration of water samples. This method conforms to Standard Methods 4500-NH₃ E.

Method Summary

This method does not require calibration of the ammonia electrode. It involves the addition of NaOH to the sample until the pH is above 11 to ensure that all ammonium is converted to ammonia. A millivolt (mV) reading is taken, and then a known amount of a standard of known concentration is added to the sample and the electrode takes an mV reading again. The concentration of ammonia is then calculated based on the mV difference.

Method Performance

Parameter	Specification
Measuring Range*	0.5 – 200ppm
MDL**	0.5ppm
RSD @ 0.5ppm	6.59%
RSD @ 50ppm	2.51%
RSD @ 200ppm	4.64%

*This measuring range was determined by analyzing laboratory prepared standards formulated from ammonium chloride.

**The Method Detection Limit (MDL) was determined based on data obtaining a coefficient of variance better than 30%. Results may differ depending on laboratory practices and sample matrix.