

Fast, accurate thermometric titration method for control of sulfate in wet process phosphoric acid production

With world food production at record levels and demand for crop-derived biofuels rising sharply, the production of phosphate-based fertilizers is booming. In response, the price of phosphate rock has risen considerably and manufacturers of wet process phosphoric acid are under increasing pressure to maximize the efficiency of their processes.

A crucial factor in the production of phosphoric acid is the control of sulfate. Sulfate levels must be controlled tightly and Metrohm's 859 Titrotherm thermometric titration system has a critical role to play. The previous methods have either been too slow and difficult to perform (classical gravimetry) or inaccurate and subject to interference (nephelometry). Titrotherm's simple thermometric titration with barium chloride is very fast, easily performed by process operators and meets industry requirements for precision and accuracy. Titrations are generally complete within 30 seconds. The method is suitable for automation with a Metrohm 814 Sample Processor.

Thermometric titration of sulfate is fast becoming the preferred method of analysis among U.S. producers of phosphoric acid. With Metrohm's global reach, the Metrohm 859 Titrotherm thermometric titration system is now available to manufacturers of wet process phosphoric acid worldwide.

