Hexafluorosilicic acid analytical methods

Infra red spectroscopy

Hexafluorosilicic acid is expected to have a stretching frequency of 1000-800 cm-1 corresponding to the Si-F bond, in the region usually discarded as background contamination.

Nuclear magnetic resonance

^{1}H-NMR spectroscopy; ^{19}F-NMR spectroscopy; ^{29}Si-NMR spectroscopy.

Acid determination

Concentration: EN 1275: 2006 (EN) “Chemical used for treatment of water for human consumption – Hexafluorosilicic acid” – Titration method using bromthymol blue as an indicator.

Posphate content (as P_2O_5) – ISO 5440 “Sodium hexafluorosilicate for industrial use – determination of phosphate content.” Molybdovanadate spectrophotometric method (EN 1275:2006 (EN)).

Determination of HF content: EN 1275: 2006 (EN) “Chemical used for treatment of water for human consumption – Hexafluorosilicic acid”.