

Advantages of Using Flame Atomic Emission Spectrometry (FAES) for Measuring Group 1 Metals in Aqueous Solutions

FAES or Flame Photometry, is a method of chemical analysis that uses the intensity of light emitted from a flame at a particular wavelength to determine the quantity of Na, K, Li and Ca in aqueous samples. FAES is recognized as the reference analytical method for these particular elements in solution.



3	Li	Lithium Alkali Metal
11	Na	Sodium Alkali Metal
19	K	Potassium Alkali Metal

The A. Krüss Optronic Model 8400 Flame Photometer



What are the Advantages of This Method Over Other Methods That Can Detect These Elements?

- No risk of ionization effects—FAES technology utilizes a flame at a temperature of 1900°C which provides enough energy to promote the atoms of the elements Li, K, Na and Ca from their ground state to an excited energy level without the risk of ionization! Since no atoms get ionized all atoms in the sample will be captured defining the REAL concentration value.
- Lower day-to-day operating costs compared to methods such as ICP-AES, GF-AAS, ICP-OES and ICP-MS
- Fast Measurement—Up to 300 measurements per hour
- Requires low operator expertise resulting in lower labor costs
- Excellent sensitivity over a wide linear range, for example, can detect Na from 10 ppb to 4500 ppm
- Minimal matrix effects compared to methods such as Flame AAS (FAAS), ICP-AES, and colorimetric reagent tests

Contact Us Today for More Information!