

Flame Photometry Standards



Summary of Features & Benefits:

- Single and multielement solutions available
- Wide range of values and elements
- A very high accuracy supported by a certificate of analysis which can be downloaded online
- Products are non hazardous, non toxic and SDS (Safety Data Sheets) can also be downloaded
- All products manufactured and tested in a GLP (Good Laboratory Practice) environment

The Principle of Flame Photometry

Introduction

The benefits of measuring electromagnetic radiation emitted by atoms subjected to flame excitation has been recognised for over 150 years in analytical chemistry. In the intervening period instrumentation capable of exploiting this principle has been developed, refined and commercialised by several companies using a number of technologies. Flame photometry is particularly suitable for measuring the concentration of Alkali and Alkaline Earth metals in several matrices by exploiting a characteristic of such metals whereby, their atoms reach an excited state at a lower temperature than most other metals. The instrument operates on the principle that the metals are thermally dissociated into atoms and the electrons in some of these atoms are excited by the flame. When the excited atoms return to their normal state, they emit electromagnetic radiation which lies mainly in the visible region. The wavelengths of this radiation are easily isolated by an optical filter from those of most other elements and then converted to an electric signal. This signal is a direct function of the concentration of the particular metal in the sample, control or standard. The spectra produced are simple, free of interference and well suited to quantifiable measurement.

Calibration & Control

Flame Photometry Standards may be used to:

- 1) Calibrate the instrument in preparation for testing.
- 2) Control the entire testing process to include:
 - The flame photometer
 - Sample
 - Operator
 - Measuring environmentAny of these four factors can influence the accuracy and precision of the analysis and give erroneous results.
- 3) Perform instrument qualification
- 4) Assist in method validation of a particular flame photometry technique



Industrial Standards

Product No.	Description	Concentration	Pack size
FIBA1	Barium	1,000ppm	500ml
FIBA3	Barium	3,000ppm	500ml
FICA1	Calcium	1,000ppm	500ml
FICA2	Calcium	2,000ppm	500ml
FICS1	Cesium	1,000ppm	500ml
FIL1	Lithium	1,000ppm	500ml
FINA1	Sodium	1,000ppm	500ml
FIK1	Potassium	1,000ppm	500ml
FISR1	Strontium	1,000ppm	500ml
FIRB1	Rubidium	1,000ppm	500ml

Clinical Standards

Product No.	Description	Pack size
FCNK3	Sodium 100/Potassium 100mmol/l	500ml
FCNK4	Sodium 120/Potassium 2mmol/l	500ml
FCNK5	Sodium 140/Potassium 5mmol/l	500ml
FCNK1	Sodium 160/Potassium 8mmol/l	500ml
FCNK2	Sodium 160/Potassium 80mmol/l	500ml
FCLI001	Lithium 1mmol/l	500ml

Multi-Element Linearity Standards

Product Number	Description	Concentration	Pack Size
FPLE5		Low	500ml
	Barium	28.8ppm	
	Calcium	18.2ppm	
	Lithium	1.91ppm	
	Potassium	2.09ppm	
	Sodium	2.15ppm	
FPME5		Medium	500ml
	Barium	105ppm	
	Calcium	52.4ppm	
	Lithium	5.42ppm	
	Potassium	5.37ppm	
	Sodium	5.67ppm	
FPHE5		High	500ml
	Barium	510ppm	
	Calcium	112ppm	
	Lithium	10.0ppm	
	Potassium	11.4ppm	
	Sodium	11.3ppm	
FPHK3	Combination of FPLE5, FPME5 & FPHE5	As above	3 x 500ml