



Thermo

ELECTRON CORPORATION

Potentiometric Titration Application Notes

Applications Log # 132A

Overview

This method titrates calcium and magnesium with disodium EDTA to two first derivative endpoints. Sequencing is used to link the two endpoints in one analysis.

Industry	Agriculture
Species Measured	Calcium
Sample	Animal Feed
Sample Size	0.5g
Typical Concentration	1% w/w
Technique	# 6 First Derivative
Electrode	Ross Sure-Flow Ref 800300; Calcium 93
Solutions	Electrode Fill 810007; 0.05M disodium EDTA; Tris buffer; acetyl acetone; deionized water
Sample Prep	Place a titration beaker on the balance, tare it, then weigh about 0.5 g of sample into the beaker. Note the exact weight and enter it on the 960 when the display prompts. Then pipet 5 mL of buffer reagent, and 50 mL of deionized water into the beaker, sample is then ready for analysis.

Statistics

# of Trials	5	Mean	1.05ppm(w)	%CV	0.67
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Analysis Time 2.9minute(s)

Comments Rinse the electrodes, stirrer, and dispenser probe between measurements with deionized water. * note the two endpoints for calcium and magnesium are written as two separate methods then linked together in one analysis using sequences.

Method Parameters

Sample Volume/Weight	0.504 g	Timed or Stability Readings	5.0 second(s) timed
Constant Increment	0.104 mL	Number of Endpoints	1
Max Titrant Volume	5.00 mL	Desired Units	% w/w
Molecular weight	40.08 g	Predose	1.819 mL
Prestir	3.0 second(s)	Additional Parameters	
Reaction Ratio	1.00		