



# Thermo

ELECTRON CORPORATION

Potentiometric Titration Application Notes

Applications Log # 511-B

**Overview** The concentration of chloride and bromide was determined by a Thermo technique called serial calibration and direct reading. The electrodes are placed in a known volume of blank solution and a standard solution is added in a series of aliquots to the same beaker. The Orion 960 automatically calculates the electrode slope, and the mud (blank) value. After serial calibration, the system is ready for measurement.

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<b>Industry</b>	Paint and Adhesives
<b>Species Measured</b>	Bromide
<b>Sample</b>	Solution bath for paint
<b>Sample Size</b>	50ml
<b>Typical Concentration</b>	0.43 ppm
<b>Technique</b>	# 1 Serial Calibration, direct read
<b>Electrode</b>	Bromide 9435BN; DJ Ref 900200
<b>Solutions</b>	0.1M bromide std 943506; ISA 940011; electrode fill 900002, 900003
<b>Sample Prep</b>	Pipet 50 mL sample and add 50 mL CISA. After 10 minutes, the sample is ready to analyze for chloride concentration. Pipet 50 mL sample and add 1 mL ISA. The sample is ready to analyze for bromide concentration.

### Statistics

<b># of Trials</b>	5	<b>Mean</b>	0.4372ppm	<b>%CV</b>	19.96
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**Analysis Time** 5.0minute(s)

**Comments** Rinse the electrodes, stirrer, and dispenser probe between measurements with deionized water.