

# DATASHEET

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## CARTRIDGE, CHLORIDE ELECTRODE



# 7224404

**Use:** This electrode cartridge is for *in vitro* use only. It is used for the quantitative determination of chloride on Hitachi 700 series, 900 series, and Modular Analytics chemistry analyzers.

**Type:** Silver/Silver chloride matrix with a hydrophilic film coating.  
**Life Span:** 8000 tests or 2 months from installation date\*.

**Storage:** Store a room temperature in provided packaging. 15 C  30 C  
**Shelf Life:** 2 years from manufacture typical\*.

### PERFORMANCE CHARACTERISTICS:

**Slope:**  $-53 \pm 4$  mV per decade  
**Within-run SD:** 0.20  
**Within-run CV:** 0.19%  
**Total SD:** 0.50  
**Total CV:** 0.49%  
**Linearity:** 50-200 mM  
**Linear error:** <0.75% variance due to non-linear response over 50-200 mM sensitivity range.

### INTERFERENCES:

Substance	Effect
bromides	Increase
iodides	Increase
bicarbonate	No Effect
carbonates	No Effect
salicylate	No Effect
thiocyanate	Increase

### CLEANING/MAINTENANCE

Follow OEM recommended procedure(s) in instrument operators manual. Procedure will vary depending on the specific analyzer model. **DO NOT ABRABE ELECTRODE SENSING SURFACE!**

### PRECAUTIONS:

This electrode has been tested for control recoveries using Beckman Decision, BioRad Lypocheck serum/urine, Roche Precinorm/Precipath, N.I.S.T. SRM 909b and Hi Chem Align linearity standards/controls. *Some control shifts should be expected!* PVI recommends that an independent correlation study be performed to confirm the appropriate operational parameters for your laboratory before utilizing this product in compliance with good laboratory practices. Our studies indicate that you can expect a more consistent adherence to literature *coulometric* values. See note 1 for further information. **CAUTION:** OEM recommended procedures require that all electrodes including this electrode be removed and replaced with a dummy cartridge(s) prior to running any bleach through the ISE flowpath. Exposure to mercury-based solutions (e.g. Thiomersal, etc.) is not recommended. Use of the electrode with non-recommended substances will degrade/interfere with performance and void the warranty.

### THEORY:

A solid state sensor (silver/silver chloride matrix) detects chloride activity in aqueous, serum, or urine samples through the development of a Nernstian potential difference. A hydrophilic film barrier prevents large protein molecules present in human serum/urine from binding to the sensing surface, reducing interferences and extending the useful lifetime of the electrode.

### REFERENCES:

Friedman, Clin. Chem. 1980, **26**, 4  
Young, Clin. Chem. 1975, **21**, 5

Note 1 - A comparison of Hitachi and Perphormax Brand Ion-selective Electrode Response; D. Nagahara, D. Otten; *Internal White Paper*, October, 2004; Peripheral Visions, Inc. A copy of this study can be found on our website at [www.peripheralvisions.com](http://www.peripheralvisions.com).

\* Warranty expires when either use condition is reached or expiration date is past. Warranty on tests and use periods expire at 6 months from shipment if not already consumed.