



## CHLORIDE KIT

### INTRODUCTION AND PRINCIPLE:

Chloride, a major anion, is important in the maintenance of the cation anion balance between intra-and extracellular fluids. This electrolyte is therefore essential to the control of proper hydration, osmotic pressure and acid/base equilibrium. Low serum Chloride values are found with extensive burns, excessive vomiting, intestinal obstruction, nephritis, metabolic acidosis and in Addisonian crisis. Elevated serum Chloride values may be seen in dehydration, hyperventilation, congestive heart valve and prostatic or other types of urinary obstruction.

### REAGENTS & STABILITY:

- 01. Chloride Reagent : Ready - To - Use
- 02. Chloride Standard : Ready - To - Use

Avoid Contamination of Ready-To-Use Reagent. Always use fresh pipette tips. Keep always the caps tightly closed.

Reagents are stable until expiry Date mentioned on the label.

Store the Reagent at 15-30<sup>0</sup> C. Chloride standard should be stored at 2-8<sup>0</sup> C.

### SPECIMEN COLLECTION AND STORAGE:

1. Use Serum that has been separated from the blood clot soon after drawing.
2. Grossly hemolyzed serum should not be used as it may create falsely decreased values.
3. Avoid contamination of blood with tissue fluid.
4. Store serum in tightly stoppered tubes.
5. Chloride is stable in serum for one day at Room Temperature, up to one week at 2 - 8<sup>0</sup> C and for three months frozen, when stored tightly capped.

### INTERFERENCES:

1. Bromide and Fluoride can cause falsely elevated Chloride values.
2. Other substances can influence Chloride determination.
3. Lipemic and/or icteric sera do not interfere in the reaction.

### ASSAY PARAMETER

Mode : End point.  
 Wave Length : 505  
 Temperature : Room Temperature/37<sup>0</sup> C.  
 Cuvette : 10 mm path length.  
 Reaction Slope : Increasing.  
 Incubation : 5 mins.  
 Blank : Reagent Blank.  
 Reagent Volume : 1000 ul.  
 Sample Volume : 10 ul.  
 Standard Concentration: 100 mEq/l.  
 Linearity : 140 mEq/l.  
 Units : mEq/l.

### Manual Assay

Pipette into cuvettes	Macro	Semi-Micro
Reagent	1000 ul	500 ul
Sample/Standard	10 ul	5 ul
Mix & incubate for 5 minutes and read the absorbance of all the cuvettes at 460 – 520 nm within 30 mins.		

### CALCULATION:

Abs. Of sample  
 \_\_\_\_\_ X Conc. Of STD=Conc.of Chloride

Abs. Of standard

### LIMITATIONS:

1. Samples with Chloride value above 140 mEq/L should be diluted 1:1 with distilled water, rerun and resulting value multiplied by two.
2. Care should be exercised not to touch pipette tips with the fingers.
3. Hydrochloric Acid fumes may cause high results.
4. Grossly hemolysed samples will give falsely decreased valued. Fluoride can cause falsely elevated values.

**EXPECTED VALUES (Serum):** 98 – 106 mEq/L

**LINEARITY** : 140 mEq/L

### REFERENCES:

1. Skeggs, L.T. and Hochstrasser, H.C. Clin. Chem. 10:918 (1964)
2. White, W.L. et al, Chemistry for Technologists, 3<sup>rd</sup> Ed. The C.V. Mosby. Co., St. Lenix (1970)
3. Krupp, M.A., chatton, M.J. Current Medical Diagnosis and Treatment, Large Medical Publications, California, 1980.