

## CHLORIDE (Cl)

**Method:** Colorimetric assay

Cat .No	Size	Instrument
GB4CL	R1: 2×50 ml	For Hitachi 717 & Shimadzu CL7200/8000
GS4CL	R1: 2×50 ml	For Hitachi 917 & Olympus AU640/400/600

### INTENDED USE

For the *in vitro* quantitative determination of Chloride in serum and plasma.

### CLINICAL SIGNIFICANCE

Tests for chloride in the blood are important in the diagnosis and treatment of patients suffering from Hypertension, renal failure or impairment, cardiac distress, disorientation, dehydration, nausea and diarrhea. Some causes of increased values for chloride include prolonged diarrhea, renal tubular disease, hyperparathyroidism and dehydration. Some causes for decreased values for chloride include prolonged vomiting, burns, salt-losing renal disease, overhydration and thiazide therapy.

### PRINCIPLE

Chloride ions react with mercurious thiocyanate form mercury perchlorate and thiocyanate. The liberated thiocyanate forms a red complex chloride in the presence of nitric acid.

### SAMPLE COLLECTION AND PREPARATION

Serum, EDTA plasma or heparinized plasma, cerebrospinal fluid, amniotic fluid, urine.

### REAGENT COMPOSITION

Contents	Concentrations in the Test
<b>1. Thiocyanate Reagent</b>	
Ferric(III)-nitrate	22.2 mmol/l
Mercury nitrate	1.89 mmol/l
Ammonium chloride	1.1 mmol/l
Ammonium thiocyanate	2.72 mol/l
Nitric acid	28.0 mmol/l

### STABILITY AND PREPARATION OF REAGENTS

All reagents are ready to use.

Stable up to the expiry date when stored at 15-25°C.

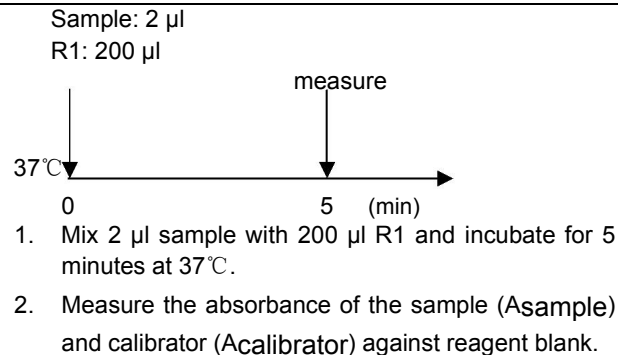
Once opened the reagent is stable for 1 month On-board the analyzer at approximately 10°C.

### ASSAY PROCEDURE

**Test Procedure for Analyzers (HITACHI 7170/917)**

Assay Mode: 1 Point

Wave Length (main/sub): 700nm/450nm



### CALCULATION

$$\text{Concentration} = \frac{A_{\text{sample}} - A_{\text{blank}}}{A_{\text{calibrator}} - A_{\text{blank}}} \times \text{Calibrator value}$$

### CALIBRATION

Recommend that this assay should be calibrated using Randox Calibration Serum Level 3 or Level 2.

### QUALITY CONTROL

Randox Assayed Multisera, Level 2 and Level 3 are recommended for daily quality control. Two levels of controls should be assayed at least once a day. Values obtained should fall within a specified range. If these values fall outside the range and repetition excludes error, the following steps should be taken:

1. Check instrument settings and light source.
2. Check reaction temperature.
3. Check expiration date of kit and contents.

### NORMAL VALUE

97 - 107 mmol/l

It is recommended that each laboratory establish its own reference range to reflect the age, sex, diet and geographical location of the population.

### SPECIFIC PERFORMANCE CHARACTERISTICS

#### LINEARITY

The method is linear between chloride concentrations of 60 mmol/l and 140 mmol/l.

#### PRECISION










The CV of the test should be less than 5%.

### SAFETY PRECAUTIONS AND WARNINGS

1. For *in vitro* diagnostic use only. Do not pipette by mouth. Exercise the normal precautions required for handling laboratory reagents.
2. Reagents contain Sodium Azide. Avoid ingestion or contact with skin or mucous membranes. In case of skin contact, flush affected area with copious amounts of water. In case of contact with eyes or if ingested, seek immediate medical attention.
3. Sodium Azide reacts with lead and copper plumbing, to form potentially explosive azides. When disposing of such reagents flush with large volumes of water to prevent azide build up. Exposed metal surfaces should be cleaned with 10% sodium hydroxide.

4. All specimens used in this test should be considered potentially infectious. Universal Precautions, as they apply at your facility, should be used for handling and disposing of materials during and after testing.

#### INDEX OF SYMBOLS

	Manufacture
	Catalogue Number
	Lot number
	Date of manufacture
	Use by(Expiration date)
	For In-Vitro Diagnostic use only
	Stored at 2-8°C
	Attention:See instruction for use
	Authorized Representative in the European Company