CHLORIDE (2-8°C)

(THIOCYANATE)

CATALOGUE NUMBER	KIT SIZE (ML)
MPRCL02	3x50ml / 1x5ml

Intended Use:
For *In Vitro* diagnostic use by trained professionals only
Chloride reagent is intended for the quantitative determination of chloride in serum, plasma and urine.

Clinical Significance:
Increase in the concentration of chloride is found in severe dehydration, excessive intake of chloride, severe renal tubular damage and in patients with cystic fibrosis. Decrease of chloride concentration is found in metabolic acidosis, loss from prolonged vomiting and chronic pyelonephritis.

Test Principle:
Chloride ions react with mercurous thiocyanate to form mercury perchlorate and thiocyanate. Thiocyanate forms a red complex with ferric ions in the presence of nitric acid. The colour intensity of the complex can be measured spectrophotometrically and is proportional to the concentration of chloride in the sample.

Reagent Composition

REAGENT	COMPONENT	CONCENTRATION
R1: Colour Reagent	Ferric Nitrate	10 mmol/l
	Mercuric thiocyanate	5 mmol/l
	Nitric Acid	12 mmol/l
Chloride Standard	Chloride solution	100 mmol/l

Reagent Preparation and Stability:
R1: Liquid, ready to use.
Standard: Liquid, ready to use.
R1 and Standard are stable up to the expiry date when stored unopened at 2 - 8°C.
Exercise the normal precautions associated with the handling of laboratory reagents and dispose of carefully according to local guidelines.
Note:

- Handle the product carefully because this product can get contaminated easily.
- Use disposable material for testing. When using glassware use sulphuric acid / potassium dichromate wash to remove any calcium interference.

Sample Collection, Preparation and Stability:
Collect serum and heparin plasma by standard venepuncture technique.
Urine: Collect 24 hour urine specimen in chloride free containers. Dilute samples 1+1 in distilled water. Multiply results by 2.
Sample stability: 1 week at 2 - 8°C.

Assay Procedure:

WAVELENGTH	505nm
TEMPERATURE	20-25°C
CUVETTE	1cm Path Length
BLANK	Reagent Blank

	Blank	Standard	Sample
Sample	-	-	10 µl
Standard	-	10 µl	-
Colour Reagent	1000 µl	1000 µl	1000 µl
Mix and incubate 5 minutes at assay temperature. Read absorbance of Sample/Standard against the Reagent Blank. The colour is stable for 30 minutes at room temperature.			

Calculation: Serum
Chloride Concentration (mEq/l) = $\frac{\Delta Abs\ Sample}{\Delta Abs\ Standard}$ x Concentration of Standard

Calculation: Urine
Chloride Concentration (mEq/l) = $\frac{\Delta Abs\ Sample}{\Delta Abs\ Standard}$ x Conc of Standard x 2

Performance Characteristics:

Measuring Range:
This method is linear up to 130 mEq/l (130 mmol/l).

Reference Values:

Serum / Plasma: 95-115 mmol/l	CSF: 98 – 110 mmol/l
Urine: 170-250 mmol/l/24h	Sweat: up to 60 mmol/l

Limitations:
The result from this test should not be used as the sole criteria for diagnosis, a confirmed diagnosis should only be made by a physician after all clinical and laboratory findings have been evaluated.

Quality Control and Calibration Material:
It is recommended that a laboratory uses reference control sera to verify the reagent performance. Results obtained should fall within the specified ranges. If results fall outside these ranges actions should be taken in line with the laboratory's internal quality procedures.
AMS recommend the following calibrator and controls
Calibration Serum: **QCCCAL1 / QCCCAL2**
Human Assayed Control Normal: **QCCHAN1 / QCCHAN2**
Human Assayed Control Elevated: **QCCHAE1 / QCCHAE2**

References:
Tietz NW, White WL, Mosby CO, St Louis P, Young DS and Henry RJ. Chem (1964), 10: 553.

REF	Catalogue number		Temperature limitation
	Consult instructions for use	LOT	Batch code
IVD	*In vitro* diagnostic medical device		Use by Date
	Manufacturer		

CE

AMS UK Ltd., 42 Ballymena Business Centre, Galgorm, Co. Antrim, BT42 1FL. Tel: +44(0)28 25656268
www.amslabs.co.uk info@amslabs.co.uk

V3: rev Dec 2016