

# CHLORIDES

## Colorimetric determination of chlorides in biological liquids

### TEST SUMMARY

Chlorides reacts with Thiocyanate Mercury releasing Thiocyanate ions which form with Iron ions a red compound.

### SAMPLE

Serum.  
Diluted urine 1:2 with distilled water.  
Stability 3 days at 4°C.

### REAGENTS

Sole Reagent Thiocyanate Mercury 4 mM; Nitrate Iron 25 mM; stabilizers and preservatives.

Standard Chloride ion 100 mEq/l; stabilizers and preservatives.

### MATERIAL REQUIRED BUT NOT SUPPLIED

Normal laboratory equipment. Spectrophotometer UV/VIS with thermostatisation. Automatic Micropipette. Cuvette in optical glass or monouse in optical polystyrene. Physiologic solution.

### PRECAUTIONS

Reagent may contain not reactive and conservative components. It is opportune to avoid contacts with the skin and do not swallow.

Perform the test according to the general "Good Laboratory Practice" (GLP) guidelines.

### REAGENTS PREPARATION

Reagents are ready to use, stable until expiration date on label stored at 4-30°C.

### PROCEDURE

Kind of analysis: End point  
Reading time: 1 minute  
Wavelength: 470 nm (460-520)  
Temperature: R.T.  
Lightpath: 1 cm  
Zero: Blank Reagent  
Colour stability: 120 minutes

Reagents	Blank	Standard	Sample
Distilled water	10 µl	--	--
Standard	--	10 µl	--
Sample	--	--	10 µl
Sole reagent	1000 µl	1000 µl	1000 µl

### CALCULATION

#### SERUM Chlorides (mEq/l - mM)

$$(A \text{ sample} / A \text{ standard}) \times 100$$

#### URINE Chlorides (mEq/24h)

$$(A \text{ sample} / A \text{ standard}) \times 100 \times 2 \times l \text{ of urine}$$

### EXPECTED VALUES

Serum: 96 - 110 mEq/l  
Urine: 140 - 250 mEq/24h

Every laboratory should establish own reference intervals in accordance with own population.

### NOTES

- If the results are incompatible with clinical presentation, they have to be evaluated within a total clinical study.
- Only for IVD use.

### CALIBRATION/QUALITY CONTROL

It is suggested to perform an internal quality control. For this purpose the following control sera on human base are available on request:

**QN 0050 CH** 10 x 5 ml  
Control Sera normal values

**QP 0050 CH** 10 x 5 ml  
Control Sera pathological values

### TEST PERFORMANCE

#### Precision

Intra-assay (n = 20)	Mean (mEq/l)	SD (mEq/l)	CV%
Sample 1	98.90	0.552	0.56
Sample 2	107.95	0.394	0.37

Inter-assay (n = 20)	Mean (mEq/l)	SD (mEq/l)	CV%
Sample 1	99.00	0.725	0.73
Sample 2	108.00	0.725	0.67

#### Linearity

The method is linear up to 200 mEq/l.

#### Methods comparison

A comparison with a commercial available product gave the following results in a comparison on 50 samples:

Chlorides LTA = x  
Chlorides competitor = y  
n = 50

$$y = 1,02508x - 2,58815 \quad r = 0,985$$

#### WASTE DISPOSAL

Product is intended for professional laboratories. Waste products must be handled as per relevant security cards and local regulations.

#### PACKAGING

**CODE CC00900 (600 TESTS)**  
Sole Reagent 6 x 100 ml (liquid)  
Standard 1 x 5 ml (liquid)






#### REFERENCES

Schoenfeld R.G. e coll. - Clin. Chem. 10; 533 (1964).  
Henry J.B. - Clinical Diagnosis and Management - 17<sup>th</sup> edition - Saunders Publisher (1984).

#### MANUFACTURER

LTA s.r.l.  
Via Milano 15/F  
20060 Bussero (Milan) ITALY  
Tel: ++39 02 95409034  
Fax: ++39 02 95334185  
e-mail: info@ltaonline.it  
Website: http://www.ltaonline.it

### SYMBOLS

- IVD** Only for IVD use  
**LOT** Lot of manufacturing  
**REF** Code number  
 Storage temperature interval  
 Expiration date (year, month)  
 Warning, read enclosed documents  
 Read the directions  
 Biological risk

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