

## Overview

### Useful For

An indicator of fluid balance and acid-base homeostasis

### Special Instructions

- [Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens](#)

### Method Name

Potentiometric, Indirect Ion-Selective Electrode (ISE)

### NY State Available

Yes

## Specimen

### Specimen Type

Urine

### Necessary Information

**24-Hour volume is required.**

### Specimen Required

**Supplies:** Aliquot Tube, 5 mL (T465)

**Container/Tube:** Plastic, 5-mL tube

**Specimen Volume:** 4 mL

### Collection Instructions:

1. Collect urine for 24 hours.
2. Refrigerate specimen within 4 hours of completion of 24-hour collection.

**Additional Information:** See [Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens](#) in Special Instructions for multiple collections.

### Forms

If not ordering electronically, complete, print, and send a [Renal Diagnostics Test Request](#) (T830) with the specimen.

### Urine Preservative Collection Options

**Note:** The addition of preservative or application of temperature controls **must occur within 4 hours of completion** of the collection.

Ambient	OK
Refrigerate	Preferred

Frozen	OK
50% Acetic Acid	OK
Boric Acid	OK
Diazolidinyl Urea	OK
6M Hydrochloric Acid	No
6M Nitric Acid	No
Sodium Carbonate	No
Thymol	OK
Toluene	No

### Specimen Minimum Volume

0.5 mL

### Reject Due To

All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

### Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Urine	Refrigerated (preferred)	14 days	
	Frozen	14 days	

## Clinical and Interpretive

### Clinical Information

Chloride is the major extracellular anion. Its precise function in the body is not well understood; however, it is involved in maintaining osmotic pressure, proper body hydration, and electric neutrality. In the absence of acid-base disturbances, chloride concentrations in plasma will generally follow those of sodium (Na<sup>+</sup>).

Since urine is the primary mode of elimination of ingested chloride, urinary chloride excretion during steady state conditions will reflect ingested chloride, which predominantly is in the form of sodium chloride (NaCl). However, under certain clinical conditions, the renal excretion of chloride may not reflect intake. For instance, during states of extracellular volume depletion, urine chloride (and sodium) excretion is reduced.

### Reference Values

40-224 mmol/24 hours

### Interpretation

Urine sodium and chloride excretion are similar and, under steady-state conditions, both the urinary sodium and chloride excretion reflect the intake of sodium chloride (NaCl).. During states of extracellular volume depletion, low values indicate appropriate renal reabsorption of these ions, whereas elevated values indicate inappropriate excretion (renal wasting). Urinary sodium and chloride excretion may be dissociated during metabolic alkalosis with volume depletion where urine sodium excretion may be high (due to renal excretion of NaHCO<sub>3</sub>), while urine chloride

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excretion remains appropriately low.

**Cautions**

High urine values of other halide ions (eg, bromide, fluoride, iodide) may lead to falsely high readings on the chloride ion-selective electrode.

**Clinical Reference**

1. Tietz Textbook of Clinical Chemistry. Third edition. Edited by CA Burtis, ER Ashwood. Philadelphia, WB Saunders Company, 1999
2. Toffaletti J: Electrolytes. In Professional Practice in Clinical Chemistry: A Review. Edited by DR Dufour, N Rifai. Washington, AACC Press, 1993
3. Kamel KS, Ethier JH, Richardson RM, et al: Urine electrolytes and osmolality: when and how to use them. Am J Nephrol 1990;10:89-102

**Performance****Method Description**

Ion-selective electrode using indirect potentiometry.(Package insert: Roche reagent.Indianapolis, IN 46256, 8/99)

**PDF Report**

No

**Day(s) and Time(s) Test Performed**

Monday through Sunday; Continuously

**Analytic Time**

Same day/1 day

**Maximum Laboratory Time**

2 days

**Specimen Retention Time**

7 days

**Performing Laboratory Location**

Rochester

**Fees and Codes****Fees**

- Authorized users can sign in to [Test Prices](#) for detailed fee information.
- Clients without access to Test Prices can contact [Customer Service](#) 24 hours a day, seven days a week.
- Prospective clients should contact their Regional Manager. For assistance, contact [Customer Service](#).

**Test Classification**

This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

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**CPT Code Information**

82436

**LOINC® Information**

Test ID	Test Order Name	Order LOINC Value
CLU	Chloride, U	43128-8

Result ID	Test Result Name	Result LOINC Value
CL24H	Chloride, 24 Hr, U	2079-2
TM30	Collection Duration	13362-9
VL28	Urine Volume	3167-4
CL_C1	Chloride Concentration	2078-4