



OXALATE - AUTOMATIC

DETERMINATION OF OXALATE IN URINE (SEMI) AUTOMATIC METHOD

Enzymatic method

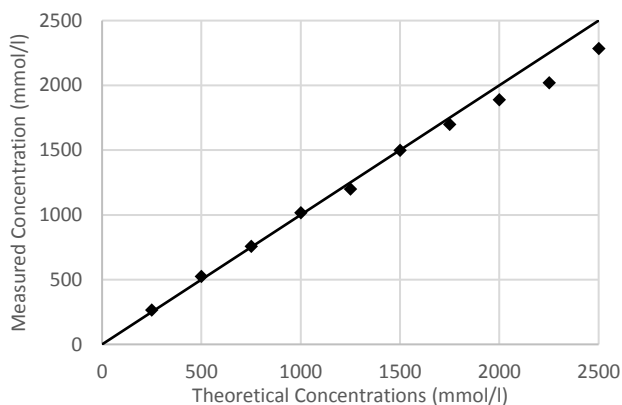
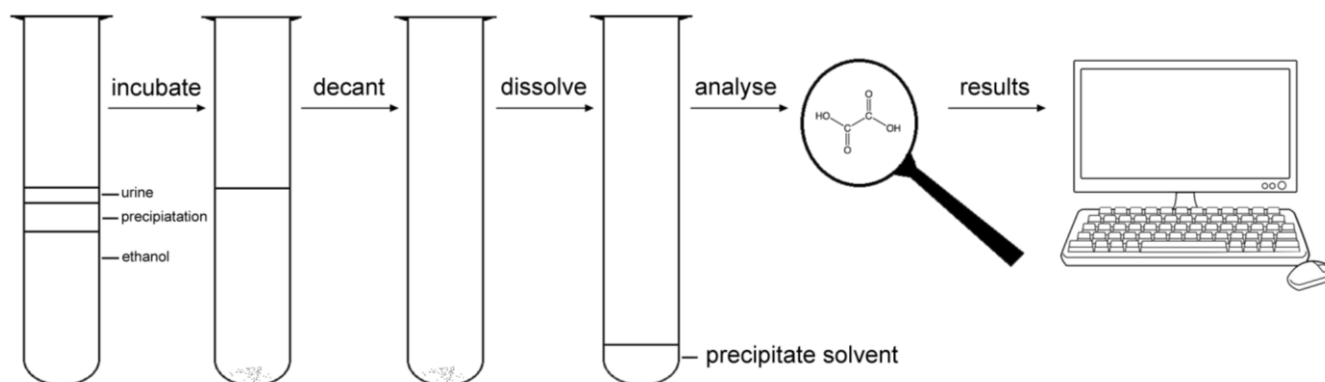
Suitable for all analyzers – 30 tests

Product insert with instructions for automated procedures

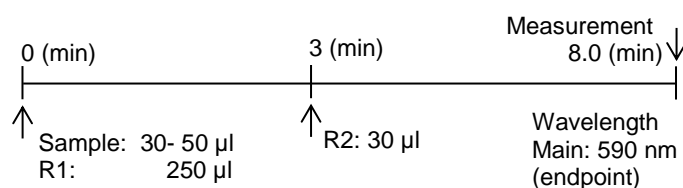
Stability reagents > 3 year after production

Citrate / Oxalate controls available

Procedure without active coal !!!



Settings for automatic analyzers



Linearity: 1500 µmol/l

Mean CV's: 1.76 %

Mean recovery: 100.1 %

Product name	Product no.	Quantity
Oxalate - AUT Reagent Set	3098	30 tests
Citrate / Oxalate Control Normal Level	3084	10 x 2 ml
Citrate / Oxalate Control High Level	3085	10 x 2 ml





OXALATE AUTOMATED – ENZYMATIC METHOD

DETERMINATION OF OXALATE IN URINE (SEMI) AUTOMATIC METHOD

- Enzymatic method
- Suitable for all analyzers – 30 tests
- Product insert with instructions for automated procedures
- Stability reagents > 3 years after production
- Citrate / Oxalate controls available
- Wavelength 590 nm



Products	Product no.	Quantity
Oxalate - AUT Reagent Set	3098	30 tests
Citrate / Oxalate Control Normal Level	3084	10 x 2 ml
Citrate / Oxalate Control High Level	3085	10 x 2 ml

SUMMARY

PRINCIPLE

Oxalate is precipitated with calcium sulfate and ethanol, the precipitate is redissolved and the oxalate is oxidized to hydrogen peroxide and carbon dioxide by oxalate oxidase. The hydrogen peroxide reacts with 3-Methyl-2-benzothiazolinone hydrazone (MBTH) and diethylaniline (DEA) in the presence of peroxidase to yield an indamine dye with a maximum absorbance at 590 nm.

SAMPLE MATERIAL

Collect 24 h urine specimens in containers with 10 ml of 6 molar HCl.
Adjust the sample to pH 7.0 (± 0.5) prior for use.

LINEARITY

Up to 1500 $\mu\text{mol/l}$ Oxalate

EXPECTED VALUES

Males: 80 - 490 $\mu\text{mol}/24\text{h}$
Females: 40 - 320 $\mu\text{mol}/24\text{h}$
Children: 140 - 420 $\mu\text{mol}/24\text{h}$

QUALITY CONTROL

Products	Product no.	Quantity
Citrate / Oxalate Control Normal Level	3084	10 x 2 ml
Citrate / Oxalate Control High Level	3085	10 x 2 ml

QUANTITY OF DETERMINATIONS

Procedure
- Automated: 30 tests

NOTES

1. For in vitro diagnostic use only.
2. For professional use only.
3. Contact INstruChemie for the complete validation report and the latest edition product insert.



CONCENTRATION MEASUREMENTS

The concentrations of a Low, Normal and High sample were measured with an automatic analyzer (sample: 30 µl) in order to verify acceptable absorbances.

Oxalate measurements

	Low	Normal	High
Absorbance	0.0165	0.0422	0.1000
Concentration (µmol/l)	78	199	471

TEST CONDITIONS

All tests were performed under the following conditions:

Temperature	: 37 °C
Wavelength	: 546 nm (closest filter available)
Light path	: 0.7 cm
Blank	: Distilled or deionized water
Sample	: Urine

SENSITIVITY

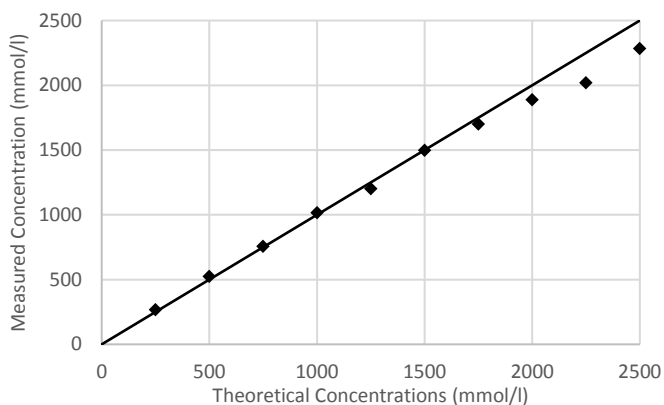
The sensitivity (limit of detection) was determined by measuring blank control material (Oxalate concentration = 0 µmol/l) 20 times.

$$\text{Sensitivity} = 4 \times \text{standard deviation} = 4 \times 6 = 24 \mu\text{mol/l}$$

LINEARITY

The Oxalate AUT assay is linear up to 1500 µmol/l.

Linearity measurements with an automatic analyzer



RECOVERY

The recovery is determined by measuring the Oxalate concentration in spiked urine 5 times using an automatic analyzer.

Recovery:

Added Oxalate (µmol/l)	Measured (µmol/l)	Recovery (%)
247	256	103.6
344	338	98.3
608	600	98.7

PRECISION

The precision is determined by measuring a urine sample and Citrate/Oxalate Control Normal Level 10 times a day (repeatability) for 5 consecutive days (reproducibility), using an automatic analyzer.

Repeatability:

	Sample (µmol/l)	Control (µmol /l)
Mean	176	199
Standard deviation	2.15	2.40
Variation coefficient (%)	1.22	1.21

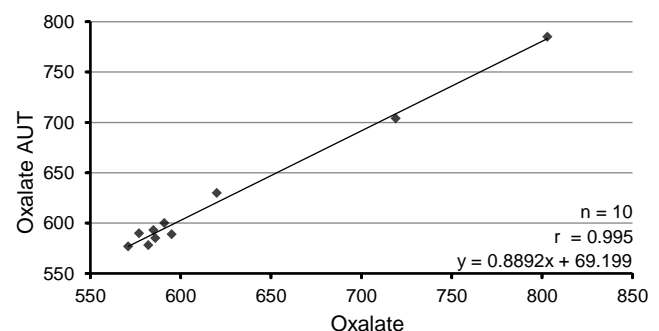
Reproducibility:

	Sample (µmol /l)	Control (µmol /l)
Mean	176	199
Standard deviation	4.22	2.66
Variation coefficient (%)	2.40	1.34

CORRELATION

Pearsons' correlation is determined by measuring the Oxalate concentration in multiple urine samples with INstruChemie Oxalate AUT (3098) and INstruChemie Oxalate (2401)

Correlation measured with an automatic analyzer (µmol/l)



Note: correlation with SKML controls available

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