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Title:		Valid from:
<b>Analytical Method Determination of vitamin C in tablet and solution</b>		Replaces:
		NEW
		Date of revision:
		SEP 2008
Prepared by:	Approved by:	Put into force by:
Dennis Eriksen	Dennis Eriksen	Dennis Eriksen

## 1. Purpose

The purpose of this analytical method is to describe the determination of vitamin C by redox titration.

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## 3. Enclosures

1. Print of method and example of titration curve, 3 pages
2. Dokumentation, 2 pages

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#### 4. Principle

Vitamin C (ascorbic acid) in tablets and solutions is determined by redox titration.

#### 5. Apparatus

Metrohm 721 Net Titrino, 728 stirrer and electrode 6.0431.100 or equivalent.  
The titrator is fully controlled by the PC-program TiNet.

#### 6. Reagents

Iodine 0,1 N, with known titer, e.g. Bie & Berntsen no. LAB00260  
Sulphuric acid, dilute Ph.Eur. reagent no. 1086804.

#### 7. Method

##### A. Tablets

Accurately weigh an amount of powdered material (= p g) containing about 150 mg. of ascorbic acid, into 250 ml. beaker. Add 20 ml. of sulphuric acid, dilute and 100 ml. of water.

Titrate with 0.1 N iodine determination the end-point by potentiometry.

For protein combi tablet with acceptance limit within 6 - 9 mg.

An amount of 1.5 g. powdered material is weighed out.

The method has to be changed to Abs.start at 1 ml. and Abs.stop at 8 ml.  
(Look at enclosure 1)

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## B. Solution

Accurately weigh an amount of the sample (= p g) containing about 150 mg. of ascorbic acid into a 250 ml. beaker. Add 10 ml. of sulphuric acid, dilute and dilute with water to about 120 ml.

Titrate with 0.1 N iodine, determining the end-point by potentiometry.

## 8. Calculation

### A. Tablets

$$\frac{n \times f \times 8.806 \times tm}{p} = \text{mg. of ascorbic acid/tablet}$$

### B. Solution

$$\frac{n \times f \times 8.806 \times d}{p} = \text{mg. of ascorbic acid/ml.}$$

n is the volume of 0.1 N iodine consumed (ml.)

f is the factor (normality/0.1) of 0.1 N iodine

tm: is the tablet mass (g/tablet) of the sample

d: is the density (weight per ml.) of the sample

The TiNet can perform the calculations automatically.

Enter the following into the program.

ld 1 = conversion factor, ie 8.806

ld 2 = factor of 0.1 N iodine

ld 3 = tablet mass (g/tablet) or density (g/ml.) depending on the sample type

SmpISize = amount of sample (g)

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## 9. References

The method is not identical with any pharmacopoeia.