

CALCIUM ARSENAZO III

COLORIMETRIC DETERMINATION IN WINE, FOOD & BEVERAGES

Kit: 2 x 100 mL

Cod. CA9935

PRINCIPLE

In the correct solution, the calcium reacts with Arsenazo III giving a blue-purple complex. The intensity of the developed colour at the right wavelength is proportional to the concentration of Calcium in the sample.

REAGENTS

Components of the kit:

***REAGENT 1** (liquid)
Arsenazo III 0.2 mmol/L
***REAGENT 2** (liquid)
Blank
***REAGENT 3 Standard**
Calcium 10 mg/dL (2.5 mmol/L)

Code CA9935
2 x 100 mL
2 x 100 mL
1 x 5 mL

STABILITY: the reagents, stored at 15-25°C, are stable up to the expiry date shown on the package, **if not contaminated during handling.**

PREPARATION OF THE WORKING REAGENT

Ready to use.

Let the reagents reach the working temperature before use.
Close immediately after handling. Incompetent handling will release us from any responsibility.

STABILITY: the reagents, stored at 20-25°C, are stable up to the expiry date shown on the package, **if not contaminated during handling.**

SAMPLE

- Wine could be used directly.
- Use colourless, clear and quite neutral liquid samples directly; if Calcium conc. Higher than 16 mg/dL dilute with water to reduce it in this range.
- Turbid solutions have to be filtered or centrifuged
- Samples containing carbon dioxide have to be degassed.
- Acid samples have to be adjusted by adding KOH /NaOH until approx. pH 8 is reached.
- Alkaline samples have to be adjusted by adding HCl until approx. pH 8 is reached.
- Strongly coloured samples have to be treated with PVPP (polyvinylpyrrolidone e.g. 1 g/100 mL Sample).
- For other different samples, please inquire the use and for potential pre-treatment.

PROCEDURE

- Wavelength: 650 nm (630-660 nm)
- Pathlength: 1 cm
- Reading: against Reagent Blank (R/B) and, if necessary, against Sample Blank (S/B)
- Temperature: room temperature
- Method: end point
- Reaction: 5 min. or immediate at room temperature, for different samples
- Linearity: till 16 mg/dL
- Sample/reagents: 1/100

Let reagents reach the working temperature before using.

Pipette in a test tube or cuvette so labeled:

R/B: Reagent Blank; ST: Standard, S/B: Sample Blank;
S: Sample:

	R/B	ST	S/B	S
*Reag. 1 Arsenazo III	1000 µl	1000 µl	----	1000 µl
*Reagent 2 Blank	----	----	1000 µl	----
Distilled Water	10 µl	----	----	----
*Reagent 3 Standard	----	10 µl	----	----
Sample	----	----	10 µl	10 µl

Mix carefully. Immediately or after 5 minutes at room temperature (depending from the sample under test), read the absorbance of the sample blank (Asb) against distilled water; that ones of the standard (Ast) and of the sample (As) against the reagent blank (R/B).

CALCULATION

$$[(As - Asb) / Ast] \times 10 = \text{mg calcium/dL}$$

or

$$[(As - Asb) / Ast] \times 2.5 = \text{mmol calcium/L}$$

NOTE

1. A prop. variation of the reaction volumes does not change the results.
2. We suggest do not mix Reagents from different Production lots.
3. For concentrations higher than the limit of Linearity of the different applications, dilute the sample with distilled water in the mentioned ranges; repeat the determination and multiply the result by the dilution factor.
4. **PAY ATTENTION!**
Applications on routine Analyzers may be totally different from what we developed as manual determination, and also from themselves.
5. For fat containing samples please ask for specific procedure.
6. For solid or semi-solid samples please ask for specific procedure, eventual Carrez solutions pretreatment and Calculation.
7. Specificity: this test is specific for Calcium. No interference was seen.
8. This method is not affected by magnesium and/or other ions interferences.
9. Use clean glassware, free from calcium traces. Otherwise wash the glassware with HCl diluted (2N) and rinse out with distilled water.

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