BEN
BIOCHEMICAL ENTEPRISE

IRON Liquid (FERROZINE)

COLORIMETRIC DETERMINATION IN WINE, FOOD & BEVERAGES

Kit: 4 x 100 mL **Cod. FE9958**

PRINCIPLE

The Iron dissociated from proteins and transferrin, in particular conditions of ionic strength is reduced in bivalent state from ascorbic ac. and gives with FERROZINE a stable complex, which intensity of color is proportional at the concentration of Iron in the sample.

REAGENTS

Components of the kit:		**Cod. FE9958**
***REAGENT 1** (liquid)		**4 x 84 mL**
Buffer	>0.1 mol/L	
***REAGENT 2** (liquid)		**4 x 16 mL**
Ferrozine	>0.1 mmol/L	
Ascorbic acid	>0.1 mol/L	
***REAGENT 3 Standard** (liquid)		**1 x 5 mL**
Iron 200 µg/dL		

STABILITY: the reagents, at 2-8°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 Iron conc. is between 6 – 1000 µg/dL; otherwise, 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.
- Strongly coloured samples have to be treated with PVPP (polyvinylpolypyrrolidone e.g. 1 g/100 mL Sample).
- For other different samples, please inquire the use and for potential pre-treatment.

PROCEDURE

- Wavelength: 582 nm (575-605 nm)
- Pathlength: 1 cm
- Temperature: 37°C
- Method: end point
- Reaction: 7 minutes
- Linearity: 6 – 1000 µg/dL
- Sample/Reagent: 1/20

Let the reagents reach the working temperature before use.

Pipette in vial or cuvette so labelled :
R/B: Reagent Blank; ST: Standard; S: Sample:

	R/B	ST	S
*Reagent 1	840 µl	840 µl	840 µl
Distilled water	50 µl	----	----
*Reagent 3 Standard	----	50 µl	----
Sample	----	----	50 µl

Mix carefully. Read the absorbance of the standard (Ast) and sample (As) against reagent blank, after 5 minutes at 37°C.
Add in every test tube or cuvette:

*Reagent 2	160 µl	160 µl	160 µl

Mix carefully. Read the absorbance after 2 minutes at 37°C of the standard (Ast2) and sample (As2) against reagent blank.
The color is stable for 30 minutes at room temperature.

CALCULATION

[(As2 - As1) / (Ast2 - Ast1)] x 200 = µg/dL of Iron

[(As2 - As1) / (Ast2 - Ast1)] x 35.8 = µmol/L of Iron

NOTE

1. A proportional. variation of the reaction volumes does not change the result.
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. Use plastic material monouse or very clean tubes washed with diluted HCl and distilled water.
5. PAY ATTENTION!
Applications on routine Analyzers may be totally different from what we developed as manual determination, and also from themselves.
6. For fat containing samples please ask for specific procedure.
7. Specificity: this test is specific for Iron. No interference was seen.

Ver. 2008/02

SISTEMA QUALITÀ CERTIFICATO UNI EN ISO 9001/2000 SINCERT DNV

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