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COPPER ASSAY KIT

Colorimetric Di-Br-PAESA method.

Kit for measurement of copper concentration in wine.

Reference: CUI-COL

PRINCIPLE OF THE METHOD

Under acid environment, copper present in the sample reacts, with the chromogen Di-Br-PAESA forming a coloured blue complex. The intensity of the coloured complex is proportional to the copper concentration in the sample.
The method doesn't need deproteinization, neither sample blank.

METROLOGICAL CHARACTERISTICS

SPECIFICITY: The method is specific for the copper.

LINEARITY: 5,00 mg/L

SAMPLE

Wine.

REAGENTS - PACKAGING

Reagent A (3 x 20 ml) (liquid) Acetate buffer 0.1M pH 4.9
Reducing agents and preservatives.
Reagent B (3 x 20 ml) (liquid) 3,5 Di-Br- PAESA.
Standard (1 x 3 ml) (liquid) Copper 2.00 mg/L ; preservatives.

REAGENTS - STORAGE AND STABILITY

Kit: Store Reagent A and Reagent B at +2-8°C. Stable until the expiry date shown on the label.

Opened reagents: Reagents are stable after opening until the expiry date shown on the bottles when are protected from direct light, tightly closed, and stored at reported temperature.

Working reagent: 20 days at room temperature.

REAGENTS - PREPARATION

Reagents are liquid ready to use.

To prepare Working Reagent, mix 1 volume of Reagent A with 1 volume of Reagent B (1 vol. A + 1 vol. B) depending on the number of sample.

Attention: At temperature lower than +10-15°C, the Reagents and Working Reagent do not precipitate.

REAGENTS – PRECAUTION AND WARNING

- This method describes the manual use of this kit. For use with automatic analyzer see the specific applications or contact Libios.

Product code: CUI-COL

ADDITIONAL EQUIPMENT

Micropipettes.
Spectrophotometer UV/VIS with thermostat or waterbath +37°C.
Cuvettes with 1 cm lightpath.
Distilled water.

SAFETY PRECAUTIONS

Reagent may contain not reactive and conservative components. It is opportune to avoid contact with the skin and do not swallow.

Perform the test according to the general "Good Laboratory Practice" (GLP) guidelines.

WASTE MANAGEMENT

Product is intended for professional laboratories.

Waste products must be handled as per relevant security and local regulations.

ANALYTICAL PROCEDURE

Reaction type	End point (increase)
Reading time	10 minutes
Colour stability	30 minutes
Wavelength	580nm (570-590)
Temperature	20-25°C
Zero	Blank Reagent
Lightpath	1 cm

Allow reagents to reach working temperature before use.

	BLANK	STANDARD	SAMPLE
Working Reagent	1 ml	1 ml	1 ml
Distilled water	66 µl	-	-
Standard	-	66 µl	-
Sample	-	-	66 µl

Mix thoroughly and incubate for 10 minutes.

Measure the absorbance (ABS) against the blank at 580nm.

CALCULATIONS

$$\text{Copper (mg/L)} = \frac{(\text{ABS Sample} - \text{ABS Blank})}{(\text{ABS Standard} - \text{ABS Blank})} \times 2 (\text{Conc. standard})$$

Note:

For concentrations higher than 5.00 mg/L, dilute the sample with distilled water, repeat the determination and multiply the result by the dilution factor.

NOTES

It is possible to make the reading even at 600nm. In that case, the reading gave absorbance's values that are about 30% lower than the ones obtained in the declared reading range.

QUALITY CONTROL

Each laboratory should establish its own internal Quality control scheme and procedures for corrective action if controls do not recover within the acceptable tolerances.

REFERENCES

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Ciuti R., Galli A., Giorn. It. Chim. Clin. 12 (2): 91-100 (1987).
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SUPPLIER

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