

COPPER (Cu)

MANUAL
RX ALTONA
WINE

FOR FULL PRODUCT DETAILS, PLEASE REFER TO THE KIT INSERT.

INTENDED USE

For the quantitative determination of Copper in wine. This product is suitable for manual use and on the RX **altona**.

Cat. No.

CU 2340	R1a. Buffer	1 x 105 ml
	R2. Chromogen	1 x 30 ml
	R1b. Reagent	5 x 20 ml
	Standard (CAL)	1 x 5.5 ml

SAMPLE

White wine only. Turbid samples should be filtered prior to assay.

STABILITY AND PREPARATION OF REAGENTS

R1a. Buffer

Supplied ready for use. Stable up to expiry date when stored at +2 to +8°C.

R2. Chromogen

Supplied ready for use. Stable up to expiry date when stored at +2 to +8°C.

R1b. Reagent

Dissolve the contents of 1 vial of Reagent R1b with **20 ml** of Buffer R1a. Ensure that contents are completely dissolved. Stable for 2 weeks at +2 to +8°C.

Standard (CAL)

Supplied ready for use. Stable up to expiry date when stored at +2 to +8°C.

MATERIALS PROVIDED

Buffer
Chromogen
Reagent
Standard

MATERIALS REQUIRED BUT NOT PROVIDED

Double deionised water

PROCEDURE RX ALTONA

Select Copper in the Test Screen. Then select Run Calibration or Run Sample and carry out a water blank as instructed.

Pipette into a cuvette:

	Reagent Blank S0	Standard S1	Sample
Redist. Water	60 µl	-	-
Standard	-	60 µl	-
Sample	-	-	60 µl
Reagent I	500 µl	500 µl	500 µl

Mix, incubate for 60sec at 37°C. Insert the cuvette into the RX **altona** flowcell holder when prompted for Sample Blank and press Read.

	Reagent Blank S0	Standard S1	Sample
Chromogen R2	125µl	125µl	125µl

Mix, incubate for a further 5min at 37°C.

Insert the cuvette into the RX **altona** flowcell holder when prompted for Sample and then press Read.

CALIBRATION FOR RX ALTONA

Recommended daily, using CAL Standard in kit.

FOR MANUAL USE

Temperature:	37°C
Wavelength:	580 nm (570 - 590 nm)
Pathlength:	1 cm
Reaction:	Endpoint
Measurement:	Against Reagent Blank

Pipette into cuvette:-

	Reagent Blank	Standard	Sample
Redist. Water	120 µl	-	-
Standard	-	-	120 µl
Sample	-	120 µl	-
Reagent I	1000 µl	1000 µl	1000 µl

Mix and allow to stand for 60 seconds at 37°C. Read initial absorbance (A₁) of sample and standard against the reagent blank.

	Reagent Blank	Standard	Sample
Chromogen (R2)	250 µl	250 µl	250 µl

Mix, incubate for 5 minutes at 37°C and read final absorbance (A₂) against reagent blank.

MANUAL CALCULATION

$$\Delta A = A_2 - A_1$$

$$\text{Concentration} = \frac{\Delta A_{\text{sample}}}{\Delta A_{\text{standard}}} \times \text{conc. of standard}$$

SPECIFIC PERFORMANCE CHARACTERISTICS

The following performance characteristics were obtained using an RX **altona** analyser in cuvette mode at 37°C.

LINEARITY

The method is linear up to 7.250 mg/L.

SENSITIVITY

The minimum detectable concentration of Copper with an acceptable level of precision was determined as 0.270 mg/L.

PRECISION

Intra Assay precision

	Level 1	Level 2	Level 3
Mean (mg/l)	1.085	3.141	5.217
SD	0.051	0.076	0.083
CV(%)	4.66	2.40	1.60
n	20	20	20

Inter Assay precision

	Level 1	Level 2	Level 3
Mean (mg/l)	1.088	3.368	5.589
SD	0.052	0.149	0.280
CV(%)	4.78	4.41	5.01
n	20	20	20

29 Sep 16 ml