

## AMMONIA (NH<sub>3</sub>)

Enzymatic UV – Method  
**RX ALTONA**  
**FOOD AND WINE**

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

### INTENDED USE

For the quantitative *in vitro* determination of Ammonia in food and wine. This product is suitable for use on the RX **altona** analyser.

**FOR THE ANALYSIS OF FOOD AND WINE. Not for diagnostic procedures.**

### Cat. No.

AM 1015	R1a.	Reagent	10 x 5 ml
	R1b.	Buffer	70 ml
	R2.	GLDH	1 x 1 ml
	CAL	Standard	5.5 ml

### SAMPLE

Red wine, white wine and fruit juices. Turbid samples should be filtered prior to assay. Strongly coloured samples with suspected low values should be decolourised with 0.1g polyamide powder, gelatine or polyvinylpyrrolidone (PVPP) to approximately 10 ml of juice or wine. Stir for 1 minute and filter. The clear filtrate can then be used in the assay undiluted.

Samples with ammonia concentration <24 mg/l can be run neat. If ammonia concentration is >24 mg/l, samples should be pre-diluted with deionised water prior to assay.

### Dilution Table

Estimated concentration of ammonia (mg/l)	Dilution with water	Dilution Factor (F)
<24	No dilution required	1
24-240	1 + 9	10
240-2400	1 + 99	100

### STABILITY AND PREPARATION OF REAGENTS

#### R1a. Reagent

Reconstitute the contents of one vial R1a with 5 ml Buffer R1b. Stable for 5 days at +15 to +25°C or 3 weeks at +2 to +8°C, in the absence of bacterial contamination.

#### R1b. Buffer

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

#### R2. GLDH

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

#### CAL Standard

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

**R1** = Reagent/Buffer

**R2** = GLDH

### MATERIALS PROVIDED

Reagent  
 Buffer  
 GLDH  
 Standard

### MATERIALS REQUIRED BUT NOT PROVIDED

Randox Ammonia Ethanol Controls:  
 Level 2 (Cat. No. EA 1367)  
 Level 3 (Cat. No. EA 1368)  
 Double deionised water

### PROCEDURE

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

Pipette into cuvette:

	Reagent Blank	Standard	Sample
Sample	---	---	70 µl
Distilled water	70 µl	---	---
Standard	---	70 µl	---
Reagent (R1)	700 µl	700 µl	700 µl

Mix, and incubate for 5 minutes at +37°C. Insert the cuvette into the RX **altona** flowcell holder when prompted for Sample Blank and press Read. Then add

GLDH (R2)	7 µl	7 µl	7 µl
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Mix, incubate for a further 5 minutes at +37°C. Insert the cuvette into the RX **altona** flowcell holder when prompted for Sample and press Read.

### CALIBRATION FOR RX ALTONA

Calibration is recommended with change in reagent lot or as indicated by quality control procedures. Use CAL Standard provided in the kit.

### QUALITY CONTROL

Randox Ammonia Ethanol Controls Level 2 and Level 3 are recommended for daily quality control. Two levels of controls should be assayed at least once a day. Values obtained should fall within a specified range. If these values fall outside the range and repetition excludes error, the following steps should be taken:

1. Check instrument settings and light source.
2. Check cleanliness of all equipment in use.
3. Check water, contaminants i.e. bacterial growth may contribute to inaccurate results.
4. Check reaction temperature.
5. Check expiry date of kit and contents.
6. Contact Randox Laboratories Technical Services, Northern Ireland + 44 (0) 28 9445 1070.

### CALCULATION

$$A_{\text{blank}} = \text{Blank } A_1 - \text{Blank } A_2$$

$$A_{\text{sample}} = \text{Sample } A_1 - \text{Sample } A_2$$

**Using a standard:**

$$\text{Conc. of Ammonia} = \frac{A_{\text{sample}} - A_{\text{blank}}}{A_{\text{standard}} - A_{\text{blank}}} \times \text{Standard conc}$$

**SPECIFIC PERFORMANCE CHARACTERISTICS**

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

**LINEARITY**

The method is linear to ammonia concentration of 24 mg/l. Samples above this concentration should be pre-diluted according to the dilution table.

**SENSITIVITY**

The minimal detectable concentration of ammonia with an acceptable level of precision was determined as 1.01 mg/l.

**PRECISION****Within Run precision**

	Level 1	Level 2	Level 3
Mean (mg/l)	5.92	10.01	18.46
S.D	0.255	0.252	0.612
C.V (%)	4.30	2.52	3.32
n	20	20	20

**Between Run precision**

	Level 1	Level 2	Level 3
Mean (mg/l)	6.08	10.56	22.73
S.D	0.433	0.440	1.277
C.V (%)	7.12	4.16	5.62
n	20	20	20

29 Sep 16 ml