



AMMONIA in milk

PRINCIPLE

A Phenolic derivate reacts with ammonia ions and forms a colored complex green-blue, whose intensity, read at 700nm, is proportional to the ammonia concentration in sample.

REAGENTS

Reagent R1 (ready in cuvette): Phenolic derivate
Reagent R2: Alkaline solution

REAGENTS PREPARATION

Reagent **R1** ready to use.
Reagent **R2** ready to use.

STABILITY

Reagents are stable up label expiration date. Store at **2 - 8 °C**. Keep reagents away from light.

SAMPLE

Whole, skim and pasteurized milk.
It's very important to mix well the milk bottle before sampling.

REACTION CONDITION (Edit)

Chan:	700 nm	Timer BLK:	5 min
K factor:		Timer SMP:	3 min
Q sign:	- or +	Temperature:	37°C
Q offset:		Mode:	END POINT
Decimal:	2	Sample:	50 µL
Anl/Std:	ANL (for testing) - STD (standardization)		

OPERATING PROCEDURE

Select the test 1: Ammonia whole milk (w) or 2: Ammonia skim milk (s) on well 3:
Ammonia on DISPLAY appears Timeout 5 min

Put **50 µL** of sample into cuvette with reagent **R1**, mix IMMEDIATELY and put it into the incubation cell. Do it for every sample to test. A session of analysis permits to test until to 14 samples. At the end, press "**Enter**" for the countdown. 5 minutes later press:
ENTER on DISPLAY appears Insert blank

Mix well and put the cuvette, just incubated at 37°C (R1 + sample), into the reading cell with the green light. Press "**Enter**" immediately. Do it for every sample to test. Press "**STOP**" with the "arrow up" for reading the samples. Add **200 µL** of Reagent **R2** into the cuvette and mix well. Put the cuvette into the incubation cell. Do it for every sample to test. At the end, press "**Enter**" for the countdown. 3 minutes later press:
ENTER on DISPLAY appears Insert sample

Mix well and put the cuvette into the reading cell with the green light. Press "**Enter**" immediately. At the end of the session of analysis, results appear as ppm of Ammonia.

STANDARDIZATION PROCEDURE

Select in EDIT the function "**STD**". Select the test 1: Ammonia whole milk or 2: Ammonia skim milk on well 3:
Ammonia on DISPLAY appears Insert Conc. 1, 2, 3 ...
< 0.00 >

Insert the standards concentration and confirm with "**Enter**". Minimum number accepted: 3 standards. At the end, press "**STOP**" for reading the standards. Follow the same procedure described for testing the samples. At the end, on the display appears the "K factor", the "q offset" and the "r²" of the linear regression. Press "**MEMO**": the values are stored in "Edit" in automatic mode

LINEARITY

This method is linear up to 50 ppm. Samples with higher concentration should be diluted 1:2 with distilled water. Multiply result by diluted factor. The sensitivity is 1 ppm.

NORMAL VALUES

< 6 ppm

NOTES

1. **CAUTION!** It's very important to mix the milk bottle well before testing. The sample must be homogeneous.
2. Clin the tip with adsorbent paper without suck the milk inside.
3. Put the milk into the cuvette and mix it immediately.
4. Mix the cuvette before reading the blank and the sample.
5. After incubation, the stability of blank signal is 25 minutes and the stability of colour signal is 25 minutes.
6. Avoid to contaminate the reagents and the sample with hands.