

#3H

GASTEC

## AMMONIA HIGH RANGE DETECTOR TUBE

The Gastec Detector Tube No.3H provides a rapid, fully quantitative analysis of the concentration of AMMONIA in air with a minimum accuracy of  $\pm 25\%$  utilizing the Gastec Multi-Stroke Gas Sampling Pump.

## PERFORMANCE :

Calibration Scale	1-16% (based on 1 pump stroke)		
Measuring Range	0.2-1%	1-16%	16-32%
Number of Pump Strokes	2-5	1	1/2
Correction Factor	1/2-1/5	1	2
Detecting Limit*	0.05%	—	—
Sampling Time	1 minute per pump stroke		
Color Change	Purple-Dull Yellow		

\*Minimum detectable concentration.

## SHELF LIFE :

Please refer to the term of validity of a label of a Detector Tube Box.

## MEASUREMENT PROCEDURE :

1. Break tips off a fresh detector tube by bending each tube end in the tube tip breaker of the pump.
2. Insert the tube securely into the rubber inlet of the pump with the arrow on the tube pointing toward the pump.
3. Make certain the pump handle is all the way in. Align the guide marks on handle and pump body.
4. Pull the handle all the way out until it locks on 1 pump stroke (100 ml). Wait 1 minute until staining stops.
5. Read concentration at the interface of the stained-to-unstained reagent.
6. If the discoloration is before the first calibration mark (1%), repeat the above sampling procedure 1 to 4 more times without removing the tube. Obtain true concentration by dividing the tube reading by 2 to 5 respectively.
7. If the stain exceeds the highest calibration mark (16%), use 1/2 pump stroke (50 ml). Obtain true concentration by doubling the tube reading.
8. For multiple stroke sampling, the handle must be turned 1/4 turn in either direction so the handle can be returned to the starting position.

## CORRECTION FOR TEMPERATURE, HUMIDITY AND PRESSURE :

Calibration of the Gastec detector tube No.3H is based on a tube temperature of 20°C

(68°F) and not the temperature of the gas being sampled, approximately 50% relative humidity, and normal atmospheric pressure. No correction is required for tube temperature of 0°-40°C (32°-104°F) and for relative humidity range of 10-90%. To correct for pressure, multiply tube reading by

760

$$\frac{\text{Atmospheric Pressure (mmHg)}}{760}$$

## CALIBRATION AND ACCURACY :

The Gastec detector tube No.3H is carefully calibrated as an integral part of the manufacturing process. Calibration and accuracy test are performed using combinations of standard reference gas of known concentrations and dynamic gas flow system, and wet chemical analysis of neutralization titration.

## DETECTION PRINCIPLE :



## INTERFERENCES :

Substance	Concentration	Interference	Changes color by itself to
Amines		+	} Yellow
Hydrazine		+	

## DANGEROUS AND HAZARDOUS PROPERTIES :

Explosive range in air: 16-25%

## APPLICATION FOR OTHER SUBSTANCES :

Substance	Correction	No. of pump strokes	Measuring range
Dimethylamine	Factor : 0.86	1	0.86 to 14 %

## CORRECTION FACTOR :

Detector tubes are primarily designed to measure specific gases. But it is also possible to measure other substances of similar chemical properties with the aid of a correction factor or chart. A correction factor is a figure which is multiplied by the concentration interpreted from the color starting on the detector tube. The correction may also be presented as a chart on tube if the correction relationship is nonlinear. Therefore, please make use of the correction factor/chart measuring ranges as a reference. Moreover, this factor may vary slightly between production batches. For a more precise factor please contact your Gastec distributor.

SEE OPERATING INSTRUCTIONS INCLUDED WITH THE GASTEC MULTI-STROKE GAS SAMPLING PUMP.

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