

#3D

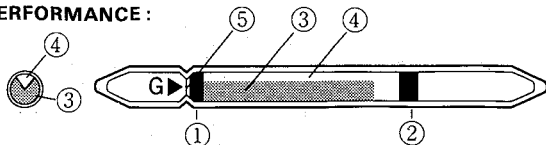
GASTEC

PASSIVE DOSIMETER TUBE FOR AMMONIA

GENERAL :

The Gastec Passive Dosimeter Tube No. 3D provides the measurement of the mean value of AMMONIA in air by the principle of diffusion sampling. No air sampling equipment such as aspiration pump, motor driven air sampler is needed for the measurement. The calibration marks printed on each tube indicates PPM × Hour and averaged concentration can be available by dividing the sampling time measured.

PERFORMANCE :



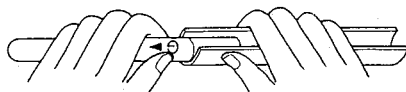
- 1 & 2 Upper and Lower End Plug Packing
 3 Diffuser
 4 Analyzing Reagent
 5 Score

Calibration Scale	25—500 ppm·hour			
Color Change	Purple—Yellow			
Measuring Range	50—1,000ppm	25—500ppm	6.3—125ppm	2.5—50ppm
Sampling Hours	0.5	1	4	10
Detecting Limit	—	—	—	0.5 ppm

SHELF LIFE :

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

OPERATING PROCEDURE :



1. Prepare Passive Dosimeter Tube and Dosi-Tube Holder No. 710.
2. Record the measurement starting time on the peel off numbered label in each box of the tube and put the label on the tube.
3. Break the tube at the score of the tube with Gastec Passive Dosi-Tube Holder. Insert a part of the tube in the tube holder where the tube can be broken at the score and break the tube carefully. Remove the broken part of the tube and discard it carefully from the tube holder.
4. Insert the analyzing tube end into the tube holder. For personal sampling, put the dosi-tube holder to the shirt collar of the personnel or workplace where the measurement is required.
5. To protect the tube holder of shirt collar from dropping during operation, support the tube holder with string through a small hole of the tube holder.

6. Measurement concentration can be obtained from 1/2 hour sampling. For reliable measurement 4—10 hours sampling time is recommended.
7. When the sampling is finished, record the time on the label of the tube and calculate the actual sampling time.
8. The averaged gas concentration can be obtained by the following formula :

$$\text{Average Concentration (ppm)} = \frac{\text{Dosi-Tube Reading (ppm·hours)}}{\text{Actual Sampling Time}}$$

CORRECTION FOR TEMPERATURE, HUMIDITY AND PRESSURE :

Calibration of the Gastec passive dosimeter tube No. 3D is based on a tube temperature of 20°C (68°F) and approximately 50% relative humidity and normal atmospheric pressure.

1. To correct for temperature, multiply the tube reading by the following correction factors :

Average Temperature (°C)	Correction Factor
0	1.34
10	1.15
20	1.0
30	0.9
40	0.8

2. No correction for humidity is required for relative humidity range of 25—100%.
3. Pressure correction is not required.

INTERFERENCES :

Substance	Concentration	Interference	Changes color by itself to
Amines		+	Yellow

DANGEROUS AND HAZARDOUS PROPERTIES :

Threshold Limit Value-Time Weighted Average (TLV-TWA) by ACGIH (1996) : 25 ppm (7—8 hours)

Threshold Limit Value—Short Term Exposure Limit (TLV-STEL) by ACGIH (1996) : 35 ppm (15 minutes)

APPLICATION FOR OTHER SUBSTANCES :

Substance	Correction	Sampling time	Measuring range
Dimethylamine	Factor : 0.75	} 0.5 to 10 hours	1.9 to 750 ppm
N,N-Dimethylethylamine	Factor : 1.6		4 to 1600 ppm
Hydrazine	Factor : 0.65		1.6 to 650 ppm
Triethylamine	Factor : 2.1		5.3 to 2100 ppm

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.

Store the tubes at below 25°C (77°F) and dark place.

Manufacturer : Gastec Corporation
 6431 Fukaya, Ayase-City, 252, Japan

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