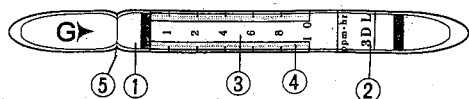


#3DL

## GASTEC PASSIVE DOSIMETER TUBE FOR AMMONIA

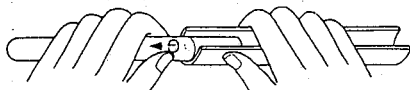
**GENERAL:**

The Gastec Passive Dosimeter Tube No. 3DL 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 x Hour and averaged concentration can be available by dividing the sampling time measured.

**PERFORMANCE:**

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

Calibration Scale	1 - 10 ppm. hour			
Color Change	Purple — Yellow			
Measuring Range	0.1 - 1 ppm	0.13 - 1.3 ppm	0.25 - 2.5 ppm	1 - 10 ppm
Sampling Hours	10	8	4	1
Detecting Limit	0.05 ppm	—	—	—
Shelf Life	1.5 years			

**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. Where 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:  
 Average Concentration (ppm) =  $\frac{\text{Dosi-Tube Reading (ppm. hours)}}{\text{Actual Sampling time}}$

**REACTION PRINCIPLE :**

Ammonia react with sulfuric acid to produce yellow discoloration on color indicator.

**CORRECTION FOR TEMPERATURE, HUMIDITY AND PRESSURE:**

Calibration of the Gastec passive dosimeter tube No. 3DL 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	1.25
10	1.1
20	1.0
30	0.92
40	0.84

2. No correction for humidity is required for relative humidity range of 20-90%.
3. No correction for pressure is required.

**INTERFERENCES:**

Amines and hydrazine give plus error of tube reading when coexisted and produce similar stain by themselves.

**DANGEROUS AND HAZARDOUS PROPERTIES :**

Threshold Limit Value - Time Weighted Average (TLV - TWA) by ACGIH (1995) : 25 ppm (7-8 hours)  
 Threshold Limit Value - Short Term Exposure Limit (TLV - STEL) by ACGIH (1995) : 35 ppm (15 minutes)

**APPLICATION FOR OTHER SUBSTANCES :**

The Gastec Passive Dosimeter Tube No.3DL can also be used for the following substances with each correction factor :

Substance	Correction Factor	Measuring Range	Sampling Hours
Methyl Amine	1.9	0.19 - 19 ppm	1 - 10 hours
Trimethyl Amine	2.3	2.3 - 23 ppm	"

Store the tubes at 20°C or below and dark place.

Manufacturer : Gastec Corporation,  
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951-3DL-1  
 Printed in Japan