

# GASTEC Instructions for No.81D Acetic Acid Passive Dosi-Tube

## FOR SAFE OPERATION :

Read this manual carefully before use.

**⚠ CAUTION :** If not observed, injuries to the operator or damage to the product may result.

- When breaking the Passive Dosi-tube, keep away from eyes.
- Do not touch the broken glass tubes, pieces and reagent with bare hand(s).
- The sampling time represents the time necessary to draw the air sample through the tube.  
Keep tubes out of Direct Sunlight. The sunlight fades the discoloration of the tube.

**△ NOTES :** For maintaining performance and reliability of the test results

- Use this tube within the temperature range of 0 - 40°C (32 - 104°F).
- Use this tube within the relative humidity range of 0 - 90%.
- This tube may be interfered with by the coexisting gases. Please refer to the "INTERFERENCES".
- Shelf life and storage conditions of the Passive dosi-tube are marked on the label of the box of tube.

## APPLICATION OF THE TUBE :

Use of this tube for the detection of Acetic Acid in air or the industrial areas and environmental atmospheric condition.

## SPECIFICATION :

(As a result of Gastec's commitment to continued improvement, specifications are subject to change without notice.)



Detecting Layer	
Measuring Range	0.5 - 100 ppm
Sampling Time	1 - 10 hours
Detecting Limit	0.2 ppm (10hours)
Colour Change	Purple → Yellow
Reaction Principle	$\text{CH}_3\text{CO}_2\text{H} + \text{NaOH} \rightarrow \text{CH}_3\text{CO}_2\text{Na}$

**Coefficient of Variance : 5% (for 5 to 20 ppm·hr), 10% (for 20 to 100 ppm·hr)**

**\*\* Shelf Life : Please refer to the Validity Date printed on the box of tube.**

**\*\* Store the tubes in dark and cool place.**

## CORRECTION FOR TEMPERATURE, HUMIDITY AND PRESSURE :

**Temperature :** To correct for temperature and humidity apply the table below : To correct for temperature by the table below:

Temperature °C (°F)	0(32)	10(50)	20(68)	30(86)	40(104)
Correction Factor	1.4	1.2	1.0	0.7	0.5

**Humidity :** No correction is required.

**Pressure :** No correction is required.

## MEASUREMENT PROCEDURE :

- Break the tube at the score of the tube with Gastec Passive Dosi-Tube Holder No710.
- Set the Dosi-tube in the Tube Holder firmly inside the holder so broken part is not appeared from the edge of the holder. Record the measurement starting time on the peel off numbered label in each box of the tube and put the label on the tube.

- For personal sampling, put the dosi-tube holder to the shirt collar of the personnel or workplace where the measurement is required. When the sampling is finished, record the time on the label of the tube.
- Average gas concentration can be obtained from an hour to 10 hours sampling. 4 - 10 hours sampling term is recommended. Calculate actual sampling time and obtain the average gas concentration can be obtained by the following formula:

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

- 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.

## INTERFERENCES :

Substance	Interference	Changes colour by itself to
Hydrogen chloride, Nitric Acid	Plus error	yellow
Chlorine, Nitrogen dioxide	Plus error	yellow
Hydrogen cyanide, Sulphur dioxide	Plus error	yellow

The table of this interference gases primarily expresses the interference of each coexisting gas in the gas concentration range, equivalent to the gas concentration. Therefore, the test result may be given positive result by the other substances not listed in the table. For more information is needed, please contact us or our distributors in your territory.

## APPLICATION FOR OTHER SUBSTANCES :

Tube 81D can also be used for other substances as below:

Substance	Correction Factor	Sampling time	Measuring Range
Acetic anhydride	0.6	1 - 10 hours	0.3 - 60 ppm
Fomic acid	1.1	1 - 10 hours	0.55 - 110 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. Therefore, please make use of the correction factor/chart measuring ranges as a reference. For a more precise factor please contact your Gastec distributor.

## DANGEROUS AND HAZARDOUS PROPERTIES :

Threshold Limit Value-Time Weighted Average by ACGIH (2006) : 10 ppm (7-8 hours)

Threshold Limit Value-Short Term Exposure Limit by ACGIH (2006) : 15 ppm (15 minutes.)

## DISPOSAL INSTRUCTION :

Reagent of the tube does not use toxic substances. When dispose of the tube regardless of used or unused, follow the rules and regulations of the local government.

## WARRANTY :

If you have any questions regarding gas detection and quality of the tubes, please feel free to contact your Gastec representatives.

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