

# GASTEC Instructions for No.122DL Toluene Passive Dosi-Tube Low Range

## FOR SAFE OPERATION :

Read this manual carefully before use.

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

1. When breaking the Passive Dosi-Tube, keep away from eyes.
2. Do not touch the broken glass tubes, pieces and reagent with bare hand(s).
3. Keep tubes out of Direct Sunlight. The sunlight fades the discoloration of the tube.

**⚠ NOTES : For maintaining performance and reliability of the test result**

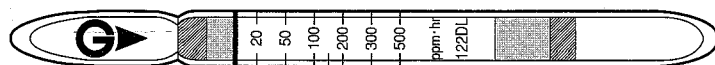
1. Use this tube within the temperature range of 0 - 40°C (32 - 104°F).
2. Use this tube within the relative humidity range of 0 - 90%.
3. This tube may be interfered by the coexisting gases. Please refer to the "INTERFERENCES".
4. Shelf life and storage conditions of the Passive dosi-tube are marked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

## APPLICATION OF THE TUBE :

Use of this tube for the detection of Toluene 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	2 - 500 ppm
Sampling Hours	1 - 10 hours
Detecting Limit	1 ppm (10 hours)
Color Change	White → Brown
Reaction Principle	Toluene reacts with formaldehyde to form condensation polymer, which is brown in color.

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

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

## CORRECTION FOR TEMPERATURE, HUMIDITY AND PRESSURE :

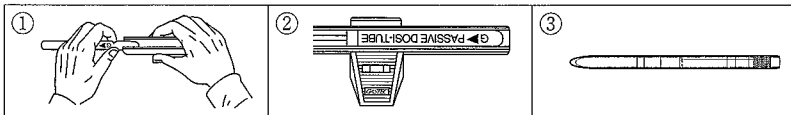
**Temperature :** Temperature correction is not required.

**Humidity :** Humidity correction is not required.

**Pressure :** Pressure correction is not required.

## MEASUREMENT PROCEDURE :

1. Break the tube at the score of the tube with Gastec Passive Dosi-Tube Holder No. 710.
2. Set the Dosi-tube in the Tube Holder firmly inside the holder so the 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.

3. 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.
4. Average gas concentration can be obtained from an hour 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 :

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

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.

## INTERFERENCES :

Substance	Concentration	Interference	Change color by itself
Alcohols, Esters, Ketones	Less than 30 ppm	No effect	No discoloration
Aromatic hydrocarbons		Plus error	Produce brown stain

## APPLICATION FOR OTHER SUBSTANCES :

Substance	Correction Factor	Measuring Time (hr)	Measuring Range (ppm)
Ethyl benzene	1.4	1 - 10	2.8 - 700
Xylene	1.7	1 - 10	3.4 - 850
Cumene	1.7	1 - 10	3.4 - 850
Benzene	1.2	1 - 10	2.4 - 600

## 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 more precise factor please contact your Gastec distributor.

## DANGEROUS AND HAZARDOUS PROPERTIES :

Threshold Limit Value-Time Weighted Average by ACGIH (2001) : 50 ppm (7 - 8 hours)

## DISPOSAL INFORMATION :

Reagent of the tube does not use toxic substances. On disposing the tube regardless of whether 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 Gstec representatives.

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