GASTEC No.132D Instructions for Trichloroethylene Passive Dosi-Tube

FOR SAFE OPERATION :

Carefully read this manual before use.

⚠ CAUTION : If you do not observe the following precautions, you may suffer injuries or damage to the product.

1. When breaking the Passive Dosi-tube, keep away from eyes.
2. Do not touch any broken glass tubes, pieces and reagents with bare hand(s).

△NOTES : For maintaining performance and reliability of the test results, observe the following.

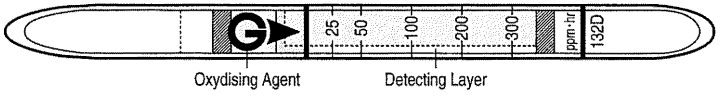
1. Use this tube within the temperature range of 0 - 40℃ (32 - 104℉).
2. Use this tube within the relative humidity range of 20 - 80%.
3. This tube may be interfered with by the coexisting gases. Please refer to the "INTERFERENCES" below.
4. Shelf life and storage condition of the Passive Dosi-tube are marked on the label of the box of tube.

APPLICATION OF THE TUBE :

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

SPECIFICATION :

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



Measuring Range	3 – 300 ppm
Sampling Hours	1 – 8 hours
Colour Change	Yellow → Purple
Reaction Principle	$Cl_2C{:}CHCl + PbO_2 + H_2SO_4 \rightarrow HCl$ HCl + Base → Chloride

Coefficient of Variation : 10% (for 25 to 300 ppm·hr)

****Shelf Life : Please refer to the validity date printed on the box of tube.**

****Store the tubes in the refrigerator to keep at 10℃ (50℉) or below.**

CORRECTION FOR TEMPERATURE, HUMIDITY AND PRESSURE :

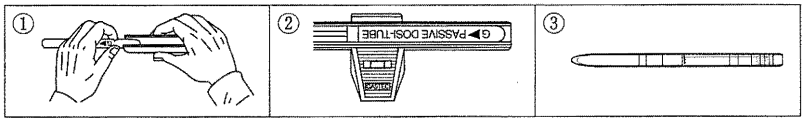
Temperature : Correct for temperature by the table below :

Tube Reading (ppm)	True Concentration (ppm)		
	0℃ (32℉)	10℃ (50℉)	20 - 40℃ (68 - 104℉)
200	200	200	200
100	130	115	100
50	85	65	50
25	55	35	25

Humidity : No correction is required.

Pressure : No correction is required.

MEASUREMENT PROCEDURE :



1. Break a Dosi-tube at the breaking line of the tube by the optional Passive Dosi-tube Holder No.710.
2. Set the Dosi-tube into the tube holder firmly so the broken tip doesn't appear from the edge of the tube holder. To protect the tube holder at the shirt collar from dropping during operation, it is advisable to support the tube holder with a string through the small hole of the tube holder. Record the measurement starting time on a peel-off numbered label supplied with each box of the tubes and put the label on the Dosi-tube in the tube holder.
3. Clip the tube holder to the clothing (e.g. shirt collar) for personal sampling or place the Dosi-tube in the workplace where the measurement is required. When the sampling is finished, record the measurement finishing time on the label on the Dosi-tube.
4. Average gas concentration can be obtained from an hour to 8 hours sampling. Calculate the actual sampling time and the average gas concentration can be obtained by the following formula :

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

5. If necessary, correct Tube Reading for temperature with the table to have True Concentration.

INTERFERENCES :

Substance	Interference	Changes colour by itself to
Hydrogen chloride, Chlorine	+	Purple
1,2-Dichloroethylene, Tetrachloroethylene	+	Purple
Toluene, Xylene	No	No discolouration

This table of interference gases primarily expresses the interference of each coexisting gas in the gas concentration range, that is 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 Gastec representatives.

APPLICATION FOR OTHER SUBSTANCES :

Tube 132D can also be used for other substances as below :

Substance	Correction factor	Sampling time	Measuring range
Hydrogen chloride	0.6	1 to 8 hours	1.8 – 180 ppm
Chlorine	0.8		2.4 – 240 ppm
1,2-Dichloroethylene	2.0		6 – 600 ppm
Tetrachloroethylene	0.5		1.5 – 150 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 more precise factor please contact your Gastec representatives.

DANGEROUS AND HAZARDOUS PROPERTIES :

Threshold Limit Value-Time Weighted Average by ACGIH (2015) : 10 ppm
Threshold Limit Value-Short Term Exposure Limit by ACGIH (2015) : 25 ppm

INSTRUCTIONS ON DISPOSAL :

The reagent of the tube uses a small amount of lead. When disposing the tube regardless of whether it has been used or not, follow the rules and regulations of your 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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