GASTEC No.133D

Instructions for Tetrachloroethylene 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.

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 discolouration of the tube.

△NOTES : For maintaining performance and reliability of the test result.

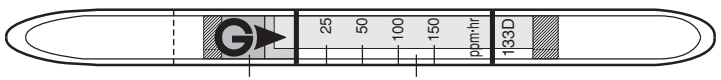
1. Use this tube within the temperature range of 0 - 40℃(32 - 104℉).
2. Use this tube within the relative humidity range of 20 - 80%.
3. This tube may be interfered with by the coexisting gases. Please refer to the "INTERFERENCES".
4. Shelf life and storage conditions of the Passive dosi-tube are marked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

APPLICATION OF THE TUBE :

Use of this tube for the detection of Tetrachloroethylene 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.)



Oxidizing Agent Detecting Layer

Measuring Range	3 - 150 ppm
Sampling Hours	1 - 8 hours
Detecting Limit	3 ppm (8 hours)
Colour Change	Yellow → Purple
Reaction Principle	Tetrachloroethylene is oxidized by sulphuric acid to generate hydrogen chloride to change the indicator to purple.

Coefficient of Variation : 15% (for 25 to 50 ppm·hr), 10% (for 50 to 150 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 :

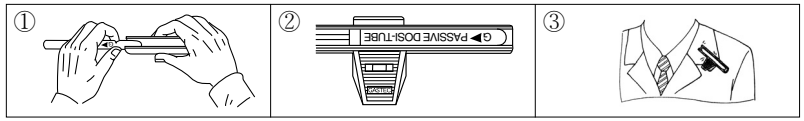
Temperature : Since the tube is affected by the temperature, multiply the correction factor to the tube reading.

Temperature℃(℉)	0 (32)	5 (41)	10 (50)	15 (59)	20 (68)	25 (77)	30 (86)	35 (95)	40(104)
Correction Factor	1.8	1.4	1.2	1.1	1.0	0.95	0.9	0.85	0.8

Humidity : No correction is required for humidity range of 20 - 80% RH.

Pressure : No correction is 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 personel 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. Calcurate 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	Interference	Change colour by itself
Hydrogen chloride, Chlorine	+	purple
1,2-Dichloroethylene, Trichloroethylene	+	purple
Toluene, Xylene	No	No

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.

DANGEROUS AND HAZARDOUS PROPERTIES :

Threshold Limit Value-Time Weighted Average by ACGIH (2005) : 25 ppm (7 - 8 hours)

Threshold Limit Value-Short Term Exposure Limit by ACGIH (2005) : 100 ppm (15 minutes)

DISPOSAL INFORMATION :

This tube contains a small amount of lead. When dispose of 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 Gastec representatives.

Manufacturer : Gastec Corporation
8-8-6 Fukayanaka, Ayase-City, 252-1195, Japan
http://www.gastec.co.jp/
Telephone +81-467-79-3910 Facsimile +81-467-79-3979

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