GASTEC No.131TP Instructions for Vinyl Chloride Detector Tube

FOR SAFE OPERATION :

Carefully read this manual and the instruction manual of your Gastec Gas Sampling Pump.

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

1. When breaking the tube ends, keep away from eyes.
2. Do not touch the broken glass tubes, broken pieces and reagent with bare hand(s).

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

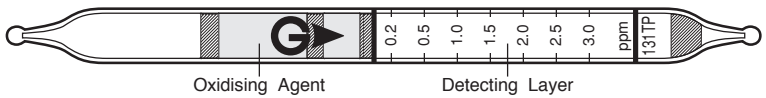
1. Recommend to use Gastec Gas Sampling device Model GSP-300FT-2 (if not available use the air sampler of equivalent to sample for 100 mL/min) together with Gastec Detector Tubes only for the purposes specified in the instruction manual of the detector tube.
2. Use this tube within the temperature range of 0 - 40℃ (32 - 104℉).
3. Use this tube within the relative humidity range of 0 - 90%.
4. This tube may be interfered with by the coexisting gases. Please refer to the table "INTERFERENCES" below.
5. The shelf life and storage condition of the tube are marked on the label of the tube box.

APPLICATION OF THE TUBE :

Use this tube for detecting Vinyl Chloride in the air or in industrial areas and for determining the environmental atmospheric condition.

SPECIFICATION :

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



Measuring Range	0.2 – 3.0 ppm	3.0 – 9.6 ppm
Sampling Rate	100 mL/min	50 mL/min
Correction Factor	1	3.2
Sampling Time	10 minutes	
Detecting Limit	0.08 ppm	
Colour Change	Yellow → Reddish purple	
Reaction Principle	CH_2 : $CHCl + I_2O_5 + H_2SO_4 \rightarrow HCl, Cl_2$ HCl, Cl_2 + Base → Chloride	

Coefficient of Variation : 10% (for 0.2 to 1.0 ppm), 5% (for 1.0 to 3.0 ppm)
****Shelf Life : Please refer to the validity date printed on the tube box.**
****Store the tubes in a dark and cool place.**

CORRECTION FOR TEMPERATURE, HUMIDITY AND PRESSURE :

Temperature : Correct for temperature with the table below.

Temperature ℃(℉)	0 (32)	5 (41)	10 (50)	15 (59)	20 (68)	25 (77)	30 (86)	35 (95)	40 (104)
Correction Factor	3.00	2.15	1.60	1.20	1.00	0.90	0.80	0.70	0.60

Humidity : No correction is required for 0 - 90%R.H.

Pressure : To correct for pressure, use the formula below :

$$\frac{\text{Tube Reading (ppm)} \times 1013\ (\text{hPa})}{\text{Atmospheric Pressure (hPa)}}$$

MEASUREMENT PROCEDURE :

If automatic air sampler Model GSP-300FT-2 is used

1. Prior to operation please confirm if black colour inlet rubber tube holder is equipped with the sampler.
2. Break both end of the tips of the detector tube by the tube tip holder supplied. Connect the detector tube to the pump with arrow (G►) on the tube pointing toward pump.
3. Set the flow meter at 100 mL/min and timer to “10 minutes” of the sampler. Press the start switch of the sampler to start the sampling.
4. After the sampling, remove the detector tube from the sampler.
5. Read the concentration level at the interface where the stained reagent meets the unstained reagent.
6. For measurements higher than 3.0 ppm, prepare a fresh tube and set the flow meter at 50 mL/min and timer to “10 minutes” of the sampler. Press the start switch of the sampler to start the sampling.
7. If necessary, multiply the readings by the correction factors of temperature and atmospheric pressure.

INTERFERENCES :

Substance	Concentration	Interference	Interference gas only
Hydrogen Chloride	≧0.2 ppm	+	Reddish purple at 0.2 ppm
Chlorine	0.04 ppm	+	Reddish purple
Ethylene	≧55 ppm	–	No discolouration
1,2-Dichloroethane	≦10 ppm	No	No discolouration
Tetrachloroethylene	≦50 ppm	No	Reddish purple at 500 ppm
Trichloroethylene	0.04 ppm	+	Reddish purple
Toluene	≧1.0 ppm	–	No discolouration
Benzen	≧0.8 ppm	–	No discolouration

This table of interference gases primarily expresses the interference of each coexisting gas in the concentration range, that is equivalent to the gas concentration. Therefore, the test result may show positive results due to other substances not listed in the table. If 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 (2012) : 1 ppm

INSTRUCTIONS ON DISPOSAL :

The reagent of the tube does not use toxic substance. 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 the quality of the tubes, please feel free to contact your Gastec representatives.

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