

GASTEC Instructions for No.131P Vinyl Chloride Detector Tube

FOR SAFE OPERATION :

Carefully read this manual and the instruction manual of your Air 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, pieces or reagent with bare hand(s).

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

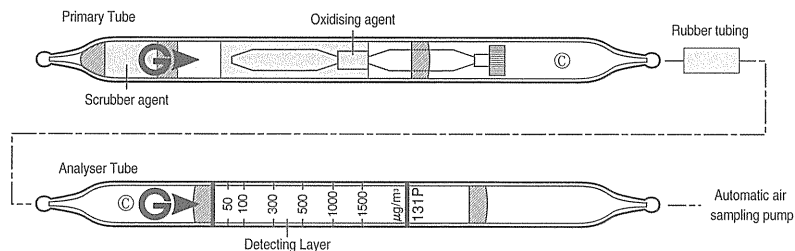
1. Recommend to use Gastec Gas Sampling device Model GSP-300FT-2 (if not available use the air sampling pump of equivalent to sample for 100mL/min) together with Gastec Detector Tubes only for the purposes specified in the instruction manual of the detector tube.
2. Use this tube within the temperature range of 5 - 35°C (41 - 95°F).
3. Use this tube within the relative humidity range of 20 - 80%.
4. This tube may be interfered with by the coexisting gases. Please refer to the table "INTERFERENCES" below.
5. Shelf life and storage condition of the tube are marked on the label of the box of tube.
6. During the measurement, keep tubes out of direct sunlight.

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	50 - 1500 $\mu\text{g}/\text{m}^3$
Sampling Rate	100 mL/min
Correction Factor	1
Sampling Time	30 minutes
Detecting Limit	10 $\mu\text{g}/\text{m}^3$ (3000 mL)
Colour Change	Yellow → Pale reddish purple
Reaction Principle	Vinyl chloride is oxidised to produce hydrogen chloride to produce pale reddish purple stain.

Coefficient of Variation : 10% (for 50 to 500 $\mu\text{g}/\text{m}^3$), 5% (for 500 to 1500 $\mu\text{g}/\text{m}^3$)

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

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

CORRECTION FOR TEMPERATURE, HUMIDITY AND PRESSURE :

Temperature : Correct for temperature by the table below :

Tube Reading ($\mu\text{g}/\text{m}^3$)	True Concentration ($\mu\text{g}/\text{m}^3$)						
	5°C (41°F)	10°C (50°F)	15°C (59°F)	20°C (68°F)	25°C (77°F)	30°C (86°F)	35°C (95°F)
1500	2000	1750	1650	1500	1400	1250	1000
1000	1450	1250	1150	1000	900	750	550
500	800	650	580	500	450	300	150
300	530	420	380	300	250	120	50
100	240	180	140	100	70	30	20
50	150	110	80	50	40	20	10

Humidity : No correction is required.

Pressure : To correct for pressure, multiply the tube reading by

$$\frac{\text{Tube Reading} * (\mu\text{g}/\text{m}^3) \times 1013 (\text{hPa})}{\text{Atmospheric Pressure (hPa)}}$$

* This value is after other correction(s), if applied any.

MEASUREMENT PROCEDURE :

If automatic air sampling pump Model GSP-300FT-2 is used

1. Prior to operation please confirm if black colour inlet rubber tube holder is equipped with the pump.
2. Break tips off a fresh primary tube and an analyser tube with the tube tip holder supplied.
3. Connect © marked ends with rubber tubing after breaking each end.
4. Insert the analyser tube into the pump inlet with arrow (G) on the tube pointing toward pump.
5. Set the flow metre at 100 mL/min and timer to "30 minutes" of the pump. Press the start switch of the pump to start the sampling.
6. After the sampling, remove the detector tube from the pump.
7. Read concentration level at the interface where the stained reagent meets the unstained reagent.
8. If temperature correction is necessary, obtain the true concentration by using the temperature correction table.
9. If pressure correction is necessary, use the pressure correction formula.

INTERFERENCES :

Substance	Interference	Changes colour by itself to
Ammonia	No	No discolouration
Hydrogen chloride, Chlorine	No	No discolouration
Nitrogen oxides	No	No discolouration
p-Dichlorobenzene	+	Pale reddish purple
1,2-Dichloroethylene	+	Pale reddish purple
Trichloroethylene, Tetrachloroethylene	+	Pale reddish purple
1,1,1-Trichloroethane	No	No discolouration
Aromatic hydrocarbons	No	No discolouration
Formaldehyde	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 give a positive result from other substances not listed in the table. If more information is needed, please contact us or your Gastec representatives.

DANGEROUS AND HAZARDOUS PROPERTIES :

Threshold Limit Value-Time Weighted Average by ACGIH (2018) : 1 ppm

INSTRUCTIONS ON DISPOSAL :

The reagent of the primary tube uses a small amount of lead. The reagent of the analyser tube does not use toxic substances. 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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