

GASTEC Instructions for No.131LB Vinyl Chloride Low Range Detector Tube

FOR SAFE OPERATION :

Read this manual and the instruction manual of your Gastec Gas Sampling Pump carefully.

⚠ WARNING:

1. Use only Gastec detector tubes in a Gastec Pump.
2. Do not interchange or use non-Gastec parts or components in Gastec's detector tube and pump system.
3. The use of non-Gastec parts or components in Gastec's detector tube and pump system or use of a non-Gastec detector tube with a Gastec pump or use of a Gastec detector tube with a non-Gastec pump may result in property damage, serious bodily injury, and death; voids all warranties; and voids all performance and data accuracy guaranties

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

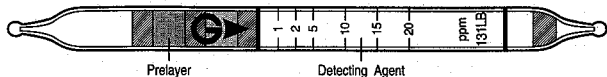
1. When breaking the tube ends, keep away from eyes.
2. Do not touch the broken glass tubes, pieces and reagent with bare hand(s).
3. The sampling time represents the time necessary to draw the air sample through the tube. The tube must be positioned in the desired sampling area for the entire sampling time or until the flow finish indicator indicates the end of the sample.

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

1. Use Gastec Gas Sampling Pump together with Gastec Detector Tubes only for the purposes specified in the instruction manual of the detector tube.
2. Use this tube under the temperature range of 0 - 40°C (32 - 104°F).
3. Use this tube under the relative humidity range of 0 - 90%.
4. This tube may be interfered by the coexisting gases. Please refer to the "INTERFERENCES".
5. Shelf life and storage condition of the tube is marked on the label of the box of tube.

APPLICATION OF THE TUBE : Use this tube for the detection of Vinyl Chloride 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.)



Measuring Range	0.25 - 1 ppm	1 - 20 ppm	20 - 70 ppm
Number of Pump Strokes	4	2	1
Correction Factor	1/4	1	3.5
Sampling Time	1.5 minutes per pump stroke		
Detecting Limit	0.02 ppm (n = 4)		
Color Change	Yellowish → Reddish Brown		
Reaction Principle	Vinyl chloride is oxidized and produce an intermediate product to discolor the reagent of purple stain.		

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

**** Store the tubes in the refrigerator to keep at 10°C (50°F) or below.**

CORRECTION FOR TEMPERATURE, HUMIDITY AND PRESSURE :

Calibration of the Gastec detector Tube No.131LB is based on a tube temperature of 20°C (68°F) and not the temperature of the gas being sampled, approximately 50% relative humidity and normal atmospheric pressure.

1. Temperature Correction .

Temperature other than 20°C (68°F) refer to the temperature correction table below :

Tube Reading (ppm)	5° (41°F)	10° (50°F)	20° (68°F)	30° (86°F)	40 (104°F)
20	100	50	20	12	8
15	70	35	15	9	6
10	40	25	10	7	4
5	20	10	5	3	2
2	6	4	2	1.5	1
1	3	2	1	0.8	0.6

2. Humidity Correction

No correction is required for relative humidity range of 0 - 90%

3. Pressure Correction

To correct for pressure, multiply by the tube reading by

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

MEASUREMENT PROCEDURE :

1. For leak tight checking of the pump insert a fresh sealed detector tube into pump. Follow instructions provided with the pump operation manual.
2. Break tips off a fresh detector tube in the tube tip breaker of the pump.
3. Insert the tube securely into pump inlet with arrow (▶) on the tube pointing toward pump.
4. Make certain pump handle is all the way in. Align guide marks on pump body and handle.
5. Pull handle all the way out until it locks on 1 pump stroke (100ml). Wait 1.5 minutes. Repeat the above sampling procedure one more time. Read concentration at the interface of the stained-to-unstained reagent.
6. If the discoloration is before the first calibration mark (1ppm), repeat the above sampling procedure 2 more time without removing the tube. Obtain true concentration by dividing the tube reading by 2.5.
7. If the discoloration exceeds 10 ppm by 1 pump stroke, stop further pump stroke and obtain true concentration by multiplying the tube reading by 3.5.

INTERFERENCES :

Substance	Concentration	Interference	Change color by itself
Chlorine,Hydrogen chloride	1/10 or higher	Plus error	Produce purple stain
Alcohols, Esters, Ketones		No effect	No discoloration
1,2-Dichloroethylene	1/10 or higher	Plus error	Produce purple stain
Trichloroethylene, Tetrachloroethylene	1/10 or higher	Plus error	Produce purple stain

DANGEROUS AND HAZARDOUS PROPERTIES :

Threshold Limit Value-Time Weighted Average by ACGIH(1999) : 1 ppm

DISPOSAL INSTRUCTION : Reagent of the tube uses little amount of lead. On disposing the tube regardless of 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.

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IM00131LBE1
Printed in Japan
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