

GASTEC

No.100A

Instructions for LP Gas Detector Tube

FOR SAFE OPERATION :

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



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. Using non-Gastec parts or components in Gastec's detector tube and pump system or using a non-Gastec detector tube with a Gastec pump or using a Gastec detector tube with a non-Gastec pump may damage your detector tube and pump system, or may cause serious injuries, or death to the end-user; It will also void all warranties; and guarantees regarding performance and data accuracy.



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 to the test results.

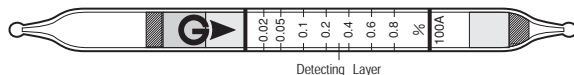
1. Use Gastec Gas Sampling Pump together with Gastec Detector Tubes only for the purposes specified in the instruction manual of the detector tube.
2. Use this tube within the temperature range of 0 - 40°C (32 - 104°F).
3. Use this tube within the relative humidity range of 0 - 90%.
4. This tube may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

APPLICATION OF THE TUBE :

Use this tube for the detection of LPG 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	0.02 - 0.8 %
Number of Pump Strokes	1
Correction Factor	1
Sampling Time	2 minutes per pump stroke
Detecting Limit	0.002 % (n = 1)
Colour Change	Orange → Blackish Green
Reaction Principle	$LPG + Cr^{6+} + H_2SO_4 \rightarrow Cr^{3+}$

Coefficient of Variation : 10% (for 0.02 to 0.2%), 5% (for 0.2 to 0.8%)

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

**** Store the tubes under dark and cool place.**

CORRECTION FOR TEMPERATURE, HUMIDITY AND PRESSURE :

Temperature : No correction is required.

Humidity : No correction is required.

Pressure : 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 checking the leakage of the pump, insert a freshly sealed detector tube into pump.
Follow instructions provided with the pump operating manual.
2. Break tips off a fresh detector tube with the tube tip breaker in the pump.
3. Insert the tube into the pump inlet with arrow (G) on the tube pointing toward the pump.
4. Make certain pump handle is all the way in. Align the guide marks on the pump body with the guide marks on the handle.
5. Pull the handle all the way out until it locks on one pump stroke (100 mL). Wait two minutes and confirm the completion of the sampling.
6. Read the concentration level at the interface where the stained reagent meets the unstained reagent.
7. If necessary, multiply the readings by the correction factors of atmospheric pressure.

INTERFERENCES :

Substance	Concentration	Interference	Interference gas only
Ketones	≥ 2000 ppm	+	Blackish green
Esters	≥ 2000 ppm	+	Blackish green
Hydrocarbons ($\geq C_3$)		+	Blackish green

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.

APPLICATION FOR OTHER SUBSTANCES

Substance	Correction Factor	No. of Pump Strokes	Measuring Range
Propylene	1	1	0.02 - 0.8 %
Xylene (%)			
Tube 100A Reading (n = 2)			

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 distributor.

DANGEROUS AND HAZARDOUS PROPERTIES :

Threshold Limit Value - Time Weighted Average by ACGIH (2009) : 1,000 ppm

Explosive range : 2.1 - 9.5% (Propane)

DISPOSAL INSTRUCTION :

Reagent of the tube uses a small amount of hexavalent chromium. When 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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