

# GASTEC Instructions for No.100A LP GAS (Propylene) 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.

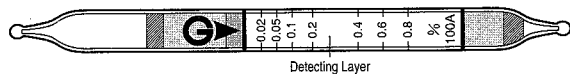
1. When breaking the tube ends, keep away from eyes.
2. Do not touch the broken glass tubes, pieces and reagent with bare hand(s).
3. The sampling time represents the time necessary to draw the air sample through the tube.  
The tube must be positioned in the desired sampling area for the entire sampling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

### △ NOTES : For maintaining performance and reliability to 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 conditions of the tube is marked on the label of the box of tube.

**APPLICATION OF THE TUBE :** Use this tube for the detection of Propylene 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	20ppm ( 0.02 % )
Color Change	Orange → Blackish Green
Reaction Principle	Propylene reduces potassium dichromate to form chromic sulfate which is blackish green in color $C_3H_6 + K_2Cr_2O_7 + H_2SO_4 \rightarrow Cr_2(SO_4)_3$

**\*\* 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 :

Calibration of the Gastec detector Tube No.100A 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 :** Temperature Correction is not required.
- (2) **Humidity :** Humidity Correction is required for relative humidity range of 0 - 90%.
- (3) **Pressure Correction :** To correct for pressure, multiply the tube reading by

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

## MEASUREMENT PROCEDURE :

1. For leak tight check of the pump insert a fresh sealed detector tube into pump.  
Follow instructions provided with the pump operating 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 2 minutes.  
Read concentration at the interface of the stained-to-unstained reagent.

## INTERFERENCES :

Substance	Concentration	Interference	Change color by itself
Ketones	More than 0.2%	Plus error	Produce similar stain by themselves.
Esters	More than 0.2%	Plus error	Produce similar stain by themselves.
Ketones	More than 0.2%	Plus error	Produce similar stain by themselves.
Alcohols	More than 0.2%	Plus error	Produce similar stain by themselves.

## APPLICATION FOR OTHER SUBSTANCES

The Gastec Detector Tube No.100A can also be used for measuring LP gas.  
LP gas provides a similar reading.

## DAINGEROUS AND HAZARDOUS PROPERTIES:

Threshold Limit Value - Time Weighted Average by ACGIH (1998): 1,000 ppm.  
Explosive range in air : 2.4 - 10.3%

## DISPOSAL INSTRUCTION :

Reagent of the tubes use chromic acid. 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.