

# GASTEC Instructions for No.100B Propane Detector Tube

## FOR SAFE OPERATION :

Carefully read this manual and the instruction manual of your Propane detection kit No.600.

### ⚠ WARNING :

1. Use this tube in a Gastec Syringe Model No.601.
2. Do not interchange or use non-Gastec parts or components in Gastec's detector tube and syringe.
3. The use of non-Gastec parts or components in Gastec's detector tube and syringe, or use of a non-Gastec detector tube with a Gastec syringe, or use of a Gastec detector tube with a non-Gastec syringe may result in property damage, serious bodily injury, and death; voids all warranties; and voids all performance and data accuracy guarantees.

### ⚠ 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.

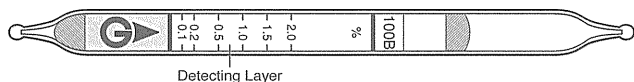
1. Use Gastec dedicated Syringe Model No.601 together with Gastec Detector Tubes only for the purposes specified in the instruction manual of the detector tube.
2. Use this tube within the temperature range of 0 - 40°C (32 - 104°F).
3. Use this tube within the relative humidity range of 0 - 90%
4. This tube may be interfered with by the coexisting gases. Please refer to the table "INTERFERENCES" below.
5. Shelf life and storage condition of the tube are marked on the label of the box of tube.

## APPLICATION OF THE TUBE :

Use this tube for detecting Propane 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	0.1 - 2.0%
Sampling Volume	20 mL
Sampling Time	20 mL / 2 minutes
Detecting Limit	0.05%
Colour Change	Yellowish brown → Greenish brown
Reaction Principle	$\text{CH}_3\text{CH}_2\text{CH}_3 + \text{Cr}^{6+} + \text{H}_2\text{SO}_4 \rightarrow \text{Cr}^{3+}$

**Coefficient of Variation : 10% (for 0.1 to 0.5%), 5% (for 0.5 to 2.0%)**

**\*\*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 (%)	True Concentration (%)				
	0°C(32°F)	5°C(41°F)	10°C(50°F)	15°C(59°F)	20 - 40°C (68 - 104°F)
2.0	1.4	1.6	1.8	1.9	2.0
1.5	1.05	1.25	1.4	1.45	1.5
1.0	0.7	0.8	0.9	0.95	1.0
0.5	0.3	0.4	0.45	0.48	0.5
0.2	0.13	0.14	0.16	0.18	0.2
0.1	0.065	0.07	0.08	0.09	0.1


**Humidity :** No correction is required.

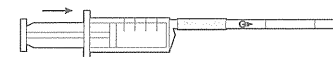
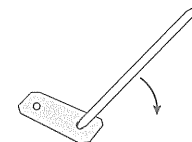
**Pressure :** To correct for pressure, multiply the tube reading by

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

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

## MEASUREMENT PROCEDURE :

1. Break tips off a fresh detector tube with the tube tip cutter.
2. Make certain the plunger of syringe is all the way in. Pull the plunger to take sample until the plunger head attains the mark "20".
3. Insert the tube into the syringe inlet with arrow (  ) on the tube as shown in the figure.
4. Push the plunger all the way down with constant infusion rate (1 mL / 6 sec).
5. Read concentration level at the interface where the stained reagent meets the unstained reagent.
6. If temperature correction is necessary, obtain the true concentration by using the temperature correction table.
7. If pressure correction is necessary, use the pressure correction formula.



**INTERFERENCES :**

Substance	Interference	Changes colour by itself to
Organic solvents ( $\geq C_3$ )	+	Greenish brown

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.

**INSTRUCTIONS ON DISPOSAL :**

The reagent of the tube uses a small amount of hexavalent chromium. 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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