

# GASTEC No.121SL

## Instructions for Benzene in Aromatic Hydrocarbons Detector Tube

### FOR SAFE OPERATION :

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

**⚠ 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).

**△ NOTES : For maintaining performance and reliability to the test result**

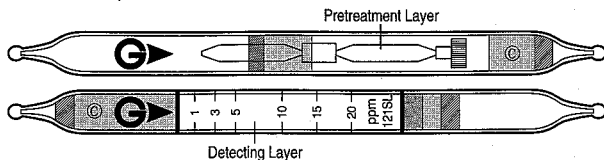
1. Use Gastec Gas Sampling Pump together with Gastec Detector Tubes only for the purposes specified in the instruction manual of the detector tube.
2. Use this tube under the temperature range of 0 - 40°C (32 - 104°F).
3. Use this tube under the relative humidity range of 0 - 90%.
4. This tube may be interfered by the coexisting gases. Please refer to the "INTERFERENCES".
5. Shelf life and storage 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 Benzene 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	1 - 20 ppm	20 - 100 ppm
Number of Pump Strokes	5	1
Correction Factor	1	5
Sampling Time	2 minutes per pump stroke	
Detecting Limit	0.25 ppm (n = 5)	
Color Change	White → Brownish gray	
Reaction Principle	$C_6H_6 + I_2O_5 + H_2S_2O_7 \rightarrow I_2$	

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

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

### CORRECTION FOR TEMPERATURE, HUMIDITY AND PRESSURE :

Calibration of the Gastec Tube No.121SL 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.

**Temperature :** Temperature Correction is not required for 0 - 40°C (32 - 104°F).

**Humidity :** Humidity correction is not required for relative humidity range of 0 - 90%.

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

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

### 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 and analyzer tube in the tube tip breaker of the pump.
3. Connect both tubes with rubber tubing supplied in the box of tubes.
4. Insert the analyzer tube securely into pump inlet with arrow **G** on the tube pointing toward pump.
5. Make certain pump handle is all the way in. Align guide marks on pump body and handle.
6. Pull handle all the way out until it locks on 1 pump stroke (100ml). Wait 2 minute. Repeat the above sampling procedure four more times. Read concentration at the interface of the stained-to-unstained reagent.
7. If the discoloration exceeds 4 ppm by 1 pump stroke, stop further pump stroke and obtain true concentration by multiplying the tube reading by 5.

### INTERFERENCES :

Substance	Concentration	Interference	Change color by itself
Hexane	200 ppm or lower	No effect	No discoloration
Toluene	100 ppm or lower	No effect	No discoloration
Xylene	150 ppm or lower	No effect	No discoloration

Aromatic hydrocarbons other than benzene are trapped in the brown layer in the pretreatment tube. If the pretreatment reagent is entirely consumed (whole brown layer turns to dark brown), a higher reading will be given.

### DANGEROUS AND HAZARDOUS PROPERTIES :

Threshold Limit Value-Time Weighted Average by ACGIH (1998) : 0.5 ppm

Threshold Limit Value-Short Term Exposure Limit by ACGIH (1998) : 2.5 ppm

### DISPOSAL INSTRUCTION :

Reagent of the tube uses toxic 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.