

# GASTEC Instructions for No.124 Styrene 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.

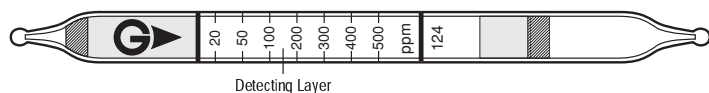
### △ NOTES : For maintaining performance and reliability of the test results.

1. Use Gastec Gas Sampling Pump together with Gastec Detector Tubes only for the purpose 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 Styrene in air for 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	10 - 20 ppm	20 - 500 ppm	500 - 1500 ppm
Number of Pump Strokes	2	1	1/2
Correction Factor	1/2	1	3
Sampling Time	30 seconds per pump stroke		
Detecting Limit	1 ppm ( n = 2 )		
Colour Change	White → Yellow		
Reaction Principle	Styrene reacts with sulphuric acid fuming to form a condensation polymer which is yellow stain.		

**Coefficient of Variation :** 15% (for 20 to 100 ppm), 10% (for 100 to 500 ppm)  
**\*\* Shelf Life :** Please refer to the Validity Date printed on the box of tube.  
**\*\* Store the tubes in the 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 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 tipbreaker of the pump.
3. Insert the tube securely into pump inlet with arrow (G) 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 30 seconds and confirm the completion of the sampling.
6. For lower than 20 ppm measurement, repeat the above samling procedure one more time until the stain attains to the first calibration mark.  
For higher than 500 ppm measurement, prepare fresh tube and take 1/2 pump strokes.
7. Read concentration at the interface of the stained to unstained reagent.
8. If correction is required, multiply the correction factors of pump strokes and pressure.

## INTERFERENCES :

Substance	Concentration	Interference	Changes colour by itself to
Alcohols, Esters, Ketones	≥ 0.5 %	+ (Bleaching)	No

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.

## DANGEROUS AND HAZARDOUS PROPERTIES :

Threshold Limit Value-Time Weighted Average by ACGIH (2005) : 20 ppm  
 Threshold Limit Value-Short Term Exposure Limit by ACGIH (2005) : 40 ppm  
 Explosive Range : 1.1 - 6.1%

## DISPOSAL INSTRUCTION :

Reagents of the tube does not use toxic substances. When dispose of 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 tube, please feel free to contact your Gastec representatives.

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