

STYRENE LOW RANGE DETECTOR TUBE

Atmospheric Pressure (mmHg)

The Gastec Detector Tube No. 124L provides a rapid, fully quantitative analysis of the concentration of STYRENE in air with an accuracy tolerance of $\pm 25\%$ utilizing the Gastec Multi-Stroke Gas Sampling Pump.

PERFORMANCE:

Calibration Scale	2—25 ppm (based on 4 pump strokes)	
Measuring Range	2—25 ppm	25—100 ppm
Number of Pump Stroke	4	1
Correction Factor	1	4
Detecting Limit*	0.5 ppm	
Sampling Time	30 sec. per pump stroke	
Color Change	White—Yellow	

* Minimum detectable concentration.

SHELF LIFE:

Please refer to the term of validity of a label of a Detector Tube Box.

MEASUREMENT PROCEDURE:

1. Break tips off a fresh detector tube by bending each tube end in the tube tip breaker of the pump.
2. Insert the tube securely into the rubber inlet of the pump with the arrow on the tube pointing toward the pump.
3. Make certain the pump handle is all the way in. Align the guide marks on the handle and pump body.
4. Pull the handle all the way out until it locks on 1 pump stroke (100 ml). Wait 30 seconds and unlock the handle by making $\frac{1}{4}$ turn in either direction to return it to the starting position. Repeat this procedure three more times (for 400 ml sampling), without removing the tube.
5. Read concentration at the interface of the stained-to-unstained reagent, after the completion of 4 pump stroke (400 ml) sampling.
6. If the stain length extends over 5 ppm by 1 pump stroke sampling (100 ml), in which case the true concentration is obtained by multiplying the tube reading by 4.

CORRECTION FOR TEMPERATURE, HUMIDITY, AND PRESSURE:

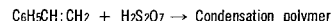
Calibration of the Gastec detector tube No. 124L is based on a tube temperature of 20°C (68°F) and not the temperature of the gas being sampled, approximately 50% relative humidity, and normal atmospheric pressure.

1. No correction is required for tube temperature of 0°—40°C (32°—104°F).
2. Though a few mm of non-discolored zone is observed adjacent to the zero point by the humidity in the gas being sampled, this does not affect to the accuracy of the reading. In case the gas being samples is existed the humidity of more than 18 mg/l, this makes non-discolored zone up to 2 ppm of the tube reading also difficult to read out the lower concentration ranges.
3. Tube reading is proportional to absolute pressure. To correct the tube reading for pressure, multiply by

CALIBRATION AND ACCURACY:

The Gastec Detector Tube No. 124L is carefully calibrated as an integral part of the manufacturing process. Calibration and accuracy test are performed using combination of dynamic diffusion tube method and gas chromatographic technique.

DETECTION PRINCIPLE:



INTERFERENCES:

Substance	Concentration	Interference	Changes color by itself to
Butadiene	≥ 5 ppm	+	} No
Alcohols	≥ 10 times	+	
Aldehydes	≥ 10 times	+	
Esters	≥ 10 times	+	
Ketones	≥ 10 times	+	

DANGEROUS AND HAZARDOUS PROPERTIES:

Threshold Limit Value-Time Weighted Average by ACGIH (1996): 50 ppm (7-8 hours)

Threshold Limit Value-Short Term Exposure Limit by ACGIH (1996): 100 ppm (15 minutes)

APPLICATION FOR OTHER GASES:

Substance	Correction Factor	No. of pump strokes	Measuring range
Divinyl benzene	Factor: 0.6	3	1 to 15 ppm

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. A correction factor is a figure which is multiplied by the concentration interpreted from the color starting on the detector tube. The correction may also be presented as a chart on tube if the correction relationship is nonlinear. Therefore, please make use of the correction factor/chart measuring ranges as a reference. Moreover, this factor may vary slightly between production batches. For a more precise factor please contact your Gastec distributor.

SEE OPERATING INSTRUCTIONS INCLUDED IN THE GASTEC MULTI-STROKE GAS SAMPLING PUMP.