

142L

GASTEC

BUTYL ACETATE LOW RANGE DETECTOR TUBE

The Gastec Detector Tube No.142L provides a rapid, fully quantitative analysis of the concentration of BUTYL ACETATE in air with an accuracy tolerance of $\pm 25\%$ utilizing the Gastec Multi-Stroke Gas Sampling Pump.

PERFORMANCE :

Calibration Scale	10—300 ppm (based on 2 pump strokes)
Color Change	Yellow—Greenish Blue
Shelf Life	2 years
Measuring Range	10—300 ppm
Number of Pump Stroke	2 pump strokes only
Detectable Limit*	2 ppm (2 pump strokes)
Sampling Time	3 minutes/pump stroke

* Minimum detectable concentration.

Measurement Procedure :

1. Break tips off a fresh detector tube by bending each tube 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 shaft and pump body.
4. Pull the handle all the way out until it locks on 1 pump stroke (100 ml). Wait 3 minutes until staining stops. Repeat above sampling procedure one more time.
5. Read concentration at the interface of the stained-to-unstained-to-unstained reagent.

CORRECTION FOR TEMPERATURE, HUMIDITY AND PRESSURE :

Calibration of the Gastec detector tube No. 142L 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. To correct for temperature other than 20°C (68°F), tube reading must be corrected according to the Temperature Correction Table below :

Temperature Correction Table 142L

Tube Reading (ppm)	True Concentration (ppm)				
	0 °C 32 °F	10 °C 50 °F	20 °C 68 °F	30 °C 86 °F	40 °C 104 °F
300	1300	730	300	150	90
200	900	410	200	100	60
100	440	200	100	60	40
50	180	80	50	30	20
30	70	45	30	20	10
10	17	12	10	9	6

2. No correction is required for relative humidity of higher than 10%

3. To correct for pressure, multiply by

$$\frac{760}{\text{Atmospheric Pressure (mmHg)}}$$

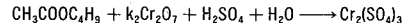
Atmospheric Pressure (mmHg)

CALIBRATION AND ACCURACY :

The Gastec Detector Tube No. 142L 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 :

Butyl Acetate reduces potassium dichromate to form chromic sulfate, which is dark brown in color.

**INTERFERENCES :**

Other esters, alcohols ketones produce similar stain by themselves and give plus error when coexisted.

DANGEROUS AND HAZARDOUS PROPERTIES :

Threshold Limit Value-Time Weighted Average by ACGIH (1989): 150 ppm (7-8 hours)
Threshold Limit Value-Short Term Exposure Limit by ACGIH (1989): 200 ppm (15 minutes)

SEE OPERATING INSTRUCTIONS INCLUDED WITH THE GASTEC MULTI—STROKE GAS SAMPLING PUMP.

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