

**# 132LL GASTEC  
TRICHLOROETHYLENE EXTRA LOW RANGE TUBE**

The Gastec Detector Tube No. 132LL provides a rapid, fully quantitative analysis of the concentration of TRICHLOROETHYLENE in air with an accuracy tolerance of  $\pm 25\%$  utilizing the Gastec Multi-Stroke Gas Sampling Pump.

**PERFORMANCE:**

Calibration Scale	(0.25) — 4 ppm (based on 1 pump stroke)		
Measuring Range	0.125 — 0.25 ppm	0.25 — 4 ppm	4 — 8.8 ppm
Number of Pump Stroke	2	1	1/2
Correction Factor	Tube Reading $\div$ 2	Tube Reading $\times$ 1	Tube Reading $\times$ 2.2
Detecting Limit*	0.05 ppm	—	—
Sampling Time	90 seconds per pump stroke		
Color Change	Yellow — Pale bluish purple		
Shelf Life	1.5 years		

\* Minimum detectable concentration

**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 shaft and pump body.
4. Pull the handle all the way out until it locks on 1 pump stroke (100 ml). Wait until staining stops.
5. Read concentration at the interface of the stained-to-unstained reagent.
6. If the discoloration is before the first calibration mark (1 ppm), repeat the above sampling procedure one more time without removing the tube. Obtain true concentration by dividing the tube reading by 2.  
For repeating pump strokes, the handle must be turned to the starting point.
7. If the stain exceeds the highest calibration mark (25 ppm), use 1/2 pump stroke (50 ml). Obtain true concentration by multiplying the tube reading by 2.2.

**CORRECTION FOR TEMPERATURE, HUMIDITY AND PRESSURE:**

Calibration of the Gastec detector tube No. 132LL 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), multiply the following correction factor for true concentration:

Temperature	0°C (32°F)	10°C (50°F)	20°C (68°F)	30°C (86°F)	40°C (104°F)
Temperature Correction Factor	1.45	1.2	1	0.9	0.85

(2) No correction is required for humidity range of 0 — 100%.

(3) To correct for pressure, multiply by

760

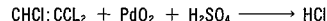
Atmospheric Pressure (mmHg)

**CALIBRATION AND ACCURACY:**

The Gastec detector tube No. 132LL is carefully calibrated as an integral part of the manufacturing process. Calibration and accuracy test are performed using combinations of dynamic diffusion tube method and gas chromatographic technique.

**DETECTION PRINCIPLE:**

Trichloroethylene is decomposed by nascent oxygen generated by oxidizing agent to liberate hydrogen chloride, which discolors Hammett indicator (4-phenylazo-diphenylamine) to pink.



**INTERFERENCES:**

Interferent	Concentration	Result	Comment
1,2-Dichloroethylene		Plus error	Produces similar stain by itself
Hydrogen Chloride and Chlorine	1/2 conc. of Trichloroethylene	Plus error	Produce similar stain by themselves
Perchloroethylene		Plus error	Produces similar stain by itself.
1,1,1-Trichloroethane	80 ppm or less	No effect	

**DANGEROUS AND HAZARDOUS PROPERTIES:**

Threshold Limit Value-Time Weighted Average by ACGIH (1991): 50 ppm (7—8 hours)  
Threshold Limit Value-Short Term Exposure Limit by ACGIH (1991): 200 ppm (15min.)

**NOTE: STORE THE BOX OF TUBES BELOW 10°C, OTHERWISE SHELF LIFE WILL BE SHORTENED.**

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

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