#12H

GASTEC

HYDROGEN CYANIDE HIGH RANGE DETECTOR TUBE

The Gastec Detector Tube No. 12H provides a rapid, fully quantitative analysis of the concentration of HYDROGEN CYANIDE in air with a minimum accuracy of ±25% utilizing the Gastec Multi-Stroke Gas Samping Pump.

PERFORMANCE :

Calibration Scale	0.05 - 1.6 % (based on 1 pump stroke)
Measuring Range	0.05 - 1.6 %
Number of Pump Strokes	1
Correction Factor	1
Detecting Limit*	0.005 %
Sampling Time	1 minute per pump stroke
Color Change	Yellow — White

* Minimum detectable concentration

Shelf Life :

Please refer to the term of validity on a Tube Box Label.

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 towards the pump.
3. Make certain the pump handle is all the way in. Align the guide marks on the shaft and housing of the pump.
4. Pull the handle all the way out until it locks on 1 pump stroke (100 ml). Wait until staining stops.
5. Read concentrarion at the interface of the stained-to-unstained reagent.
6. To unlock the pump, turn the handle 1 / 4 turn in either direction.

CORRECTION FOR TEMPERATURE, HUMIDITY OR PRESSURE :

Calibration of the Gastec detector tube No. 12H is based on a tube temperature of 20℃ (68℉) and not the temperature of the gas being sampled, approximately 50% relative humidity, and normal atmospheric pressure.

1. For tube temperature other than 20℃, tube reading must be corrected according to the Temperature Correction Table below :

Temperature Correction Table No. 12H

Tube Reading (%)	Tube Concentration (%) 0 ℃ (32 ℉)	10 ℃ (50 ℉)	20 ℃ (68 ℉)	30 ℃ (86 ℉)	40 ℃ (104 ℉)
2.0	3.0	2.5	2.0	1.7	1.5
1.6	2.4	2.0	1.6	1.4	1.2
1.2	1.8	1.5	1.2	1.0	0.9
0.8	1.2	1.0	0.8	0.7	0.6
0.4	0.55	0.45	0.4	0.35	0.35
0.2	0.25	0.2	0.2	0.2	0.2

2. No humidity correction is required for relative humidity range of 20 - 90%.
3. Tube reading is proportional to absolute pressure. Multiply the tube eading by

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

CALIBRATION AND ACCURACY :

The Gastec detector tube No. 12H is carefully calibrated as an integral part of the manufacturing process. Calibration and accuracy test are performed using combinations of standard reference gas of known concentration and dynamic gas dilution calibration technique, and wet chemical colorimetric technique.

DETECTION PRINCIPLE :

Hydrogen cyanide reacts with potassium palladsulfite to form a white coordinate compound. This reaction formula is still unknown.

INTERFERENCES :

Substance	Concentration	Interference	Changes color by itself to
Carbon monoxide		+	Dark Brown
Ethylene		+	
Hydrogen sulfide		+	

DANGEROUS AND HAZARDOUS PROPERTIES :

Threshold Limit Value-Time Weighted Average by ACGIH (1997) : C 4.7 ppm (7-8 hours)
Flammable Limits : 6 – 41%

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

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