

PETROLEUM NAPHTHA (PETROLIN) DETECTOR TUBE

The Gastec Detector Tube No.106 provides a rapid, fully quantitative analysis of the concentration of PETROLEUM NAPHTHA (PETROLIN) in air utilizing the Gastec Multi-Stroke Gas Sampling Pump.

PERFORMANCE :

Calibration Scale	1 - 14 mg/ℓ (based on 1 pump strokes)		
Measuring Range	0.5 - 1.0 mg/ℓ	1 - 14 mg/ℓ	14 - 28 mg/ℓ
Number of Pump Stroke	2	1	1/2
Correction Factor	1/2	1	1
Detecting Limit*	0.1 mg/ℓ	—	—
Sampling Time	1 minute per pump stroke		
Color Change	Orange — Dark Green		

* Minimum detectable concentration

Shelf Life :

Please refer to the terms of validity of 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 1 minute until staining stops.
5. Read concentration at the interface of the stained-to-unstained reagent.
6. If the stain exceeds the highest calibration mark, use 1/2 pump stroke (50 ml). Obtain true concentration by doubling the tube reading.
7. When the discoloration is before the first calibration mark, repeat the above sampling procedure without removing the tube. Obtain true concentration by dividing the tube reading by 2.
8. To unlock the pump, turn the handle 1/4 turn in either direction.

CORRECTION FOR TEMPERATURE, HUMIDITY AND PRESSURE :

Calibration of the Gastec detector tube No.106 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. No correction is required for tube temperature of 0 - 40°C (32 - 104°F) and for relative humidity range of 0 - 100%. To correct for pressure, multiply by

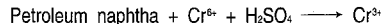
$$\frac{760}{\text{Atmospheric Pressure (mmHg)}}$$

CALIBRATION AND ACCURACY :

The Gastec detector tube No. 106 is carefully calibrated as an integral part of the manufacturing process. Calibration and accuracy test are performed by dynamic dilution board system and gas chromatographic technique.

DETECTION PRINCIPLE :

Petroleum Naphtha reduces potassium dichromate to form chromic sulfate, which is dark brown in color.



INTERFERENCES :

Substance	Concentration	Interference	Changes color by itself to
Acetylene	≧ 3 %	+	} Dark brown (whole layer)
Propane	≧ 0.2 %	+	
Hydrogen sulfide		+	Dark brown (≧ 500 ppm)
Organic solvents		+	Dark green
Sulfur dioxide		+	Green

Water vapor is trapped in the pretreatment (white) layer.

APPLICATION FOR OTHER SUBSTANCES :

Substance	Correction	No. of pump strokes	Measuring range
Petroleum benzine	Factor : 1.0	1/2, 1, or 2	0.5 to 28 mg/ℓ
Petroleum ether	Factor : 1.0	1/2, 1, or 2	0.5 to 28 mg/ℓ

* Correction factors may be changed without notice.

Please ask your GASTEC distributor for further information.

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 table 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 WITH THE GASTEC MULTI-STROKE GAS SAMPLING PUMP.