GASTEC No.75L

Instructions for tert - Butyl Mercaptan Detector Tube

FOR SAFE OPERATION :

Read this manual and the instruction manual of your Gastec Gas Sampling Pump carefully.

⚠ WARNING:

1. Use only Gastec detector tubes in a Gastec Pump.
2. Do not interchange or use non-Gastec parts or components in Gastec's detector tube and pump system.
3. The use of non-Gastec parts or components in Gastec's detector tube and pump system or use of a non-Gastec detector tube with a Gastec pump or use of a Gastec detector tube with a non-Gastec pump may result in property damage, serious bodily injury, and death; voids all warranties; and voids all performance and data accuracy guaranties

⚠ CAUTION : If not observed, injuries to the operator or damage to the product may result.

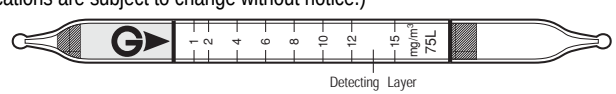
1. When breaking the tube ends, keep away from eyes.
2. Do not touch the broken glass tubes, pieces and reagent with bare hand(s).
3. The sampling time represents the time necessary to draw the air sample through the tube. The tube must be positioned in the desired sampling area for the entire sampling time or until the flow finish indicator indicates the end of the sample.

△NOTES : For maintaining performance and reliability of the test result

1. Use Gastec Gas Sampling Pump together with Gastec Detector Tubes only for the purposes specified in the instruction manual of the detector tube.
2. Use this tube within the temperature range of 0 - 40℃(32 - 104℉).
3. Use this tube within the relative humidity range of 0 - 90%.
4. This tube may be interfered by the coexisting gases. Please refer to the "INTERFERENCES".
5. If this tube is exposed under the direct sunlight, whole layer of the tube may be turned to pale green or brown, however, this color change does not affect the tube reading.
6. Shelf life and storage condition of the tube is marked on the label of the box of tube.

APPLICATION OF THE TUBE : Use of this tube for the detection of tert - Butyl Mercaptan in air or the industrial areas and environmental atmospheric condition.

SPECIFICATION : (As a result of Gastec's commitment to continued improvement, specifications are subject to change without notice.)



Measuring Range	0.5 - 1 mg/m³	1 - 15 mg/m³	15 - 30 mg/m³
Number of Pump Strokes	2	1	1/2
Correction Factor	1/2	1	2
Sampling Time	1 minute per pump stroke		
Detecting Limit	0.1 mg/m³ (n = 2)		
Color Change	Yellow - Purple		
Reaction Principle	tert - Butyl Mercaptan reacts with mercuric chloride to liberate hydrogen chloride which discolors the indicator to purple. $(CH_3)_3CSH + HgCl_2 \rightarrow (CH_3)_3CS \cdot HgCl$ HCl + Bassic compounds → Chlorides		

**** Shelf Life : Please refer to the Validity Date printed on the box of tube.**
**** Store the tubes under dark and cool place.**

CORRECTION FOR TEMPERATURE, HUMIDITY AND PRESSURE :

Temperature : To correct for temperature other than 20℃(68℉), multiply the following correction factor.

Temperature℃ (℉)	0 (32)	10 (50)	20 (68)	30 (86)	40 (104)
Correction Factor	1.2	1.1	1.0	0.9	0.8

Humidity: Humidity correction is not required.

Pressure : To correct for pressure, multiply the tube reading by

$$\frac{\text{Tube Reading (ppm)} \times 1013\ (\text{hPa})}{\text{Atmospheric Pressure (hPa)}}$$

MEASUREMENT PROCEDURE :

1. For leak checking of the pump insert a fresh sealed detector tube into pump. Follow instructions provided with the pump operation manual.
2. Break tips off a fresh detector tube by bending each tube end in the tube tip breaker of the pump.
3. Insert the tube securely into pump inlet with arrow G► on the tube pointing toward pump.
4. Make certain pump handle is all the way in. Align guide marks on pump body and handle.
5. Pull handle all the way out until it locks on 1 pump stroke (100ml). Wait 1 minute.
6. For lower than 1 mg/m3 measurement, repeat the above sampling procedure one more time . For higher than 15 mg/m3 measurement, prepare fresh tube, than pull 1/2 pump stroke.
7. Read concentration at the interface of the stained-to-unstained reagent.
8. If atmospheric correction is needed, multiply the number of pump stroke, pressure to the tube reading respectively.

INTERFERENCES :

Substance	Concentration	Interference	Change color by itself
Hydrogen sulfide		Plus error	Discolors purple stain
Other mercaptans		Plus error	Discolors purple stain

APPLICATION FOR OTHER SUBSTANCES :

Substance	Correction Factor	No. of pump stroke	Measuring range
Mercaptoethanol	0.5	1	0.5 - 7.5 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 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.

DISPOSAL INSTRUCTION : Reagent of the tube uses toxic substance as mercury. On disposing the tube regardless of used or unused, follow the rules and regulations of the local government.

WARRANTY : If you have any questions regarding gas detection and quality of the tubes, please feel free to contact your Gastec representatives.

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