

# GASTEC Instructions for No.76M Tetrahydrothiophene Detector Tube

## FOR SAFE OPERATION :

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

**⚠ WARNING: Use only Gastec detector tubes in a Gastec Pump.  
Do not interchange or use non-Gastec parts or components  
in Gastec's detector tube and pump system.**

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, piece 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.

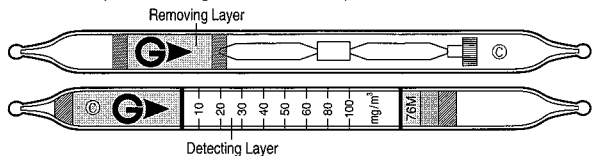
**△ NOTES : For maintaining performance and reliability to the test result**

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°C (32 - 104°F).
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 will be resulted to white and cannot use for gas detection.
6. Shelf life and storage condition of the tube is marked on the label of the box of tube.

## APPLICATION OF THE TUBE :

Use this tube for the detection of Tetrahydrothiophene in the City gas.

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



Measuring Range	10 - 100 mg/m <sup>3</sup>
Number of Pump Stroke	2
Correction Factor	1
Sampling Time	1.5 minutes / pump stroke
Detecting Limit	2 mg/m <sup>3</sup> ( 2 pump strokes )
Color Change	Pink to Pale Yellow
Reaction Formula	C <sub>4</sub> H <sub>8</sub> S + MnO <sub>2</sub> (Pink) → Yellow Reaction Product

- \*\* 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 :** Since the tube is affected by the temperature, multiply correction factor to the tube reading.

Temperature °C	0	10	20	30	40
Temperature (°F)	32	50	68	86	104
Correction Factor	1.5	1.2	1.0	0.9	0.85

**Humidity :** Humidity correction is not required.

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

$$\frac{\text{Tube Reading (mg/m}^3\text{)} \times 1013 \text{ (hPa)}}{\text{Atmospheric Pressure (hPa)}}$$

## 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 primary tube and secondary tube by bending each tube end in the tube tip breaker of the pump.
3. Connect © marked ends with rubber tubing after breaking each tube.
4. Insert analyzer tube securely into pump inlet with arrow **G** on the tube pointing toward pump.
5. Make certain pump handle is all the way in. Align guide marks on pump body and handle.
6. Pull handle all the way out until it locks on 1 pump stroke (100ml). Wait 1.5 minute. Repeat this sampling procedure 1 more time without removing the tube.
7. Read concentration at the interface of the stained-to-unstained reagent when 2 pump stroke sampling is completed.
8. If atmospheric correction is needed, refer to the "Correction for Temperature, Humidity and Pressure".

## INTERFERENCES :

Substance	Concentration	Interference	Change color by itself
Ethyl mercaptan	≤ 2 ppm	No	Discolors whole layer to pale pink
Ethylene	≤ 2000 ppm	No	"
t-Butyl mercaptan	≤ 10 mg/m <sup>3</sup>	No	"
1-Butene	≤ 1000 ppm	No	"
Propylene	≤ 1000 ppm	No	"
Methanol	≤ 1000 ppm	No	"
Hydrogen sulfide	≤ 80 ppm	No	"

## DISPOSAL INSTRUCTION :

Reagent of the tube is used a small amount of lead. 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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