

GASTEC No.71

Instructions for Methyl Mercaptan Detector Tube

FOR SAFE OPERATION :

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

△ CAUTION : If not observed, injurise 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).

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

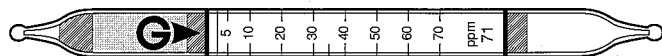
1. Use Gastec Gas Sampling Pump together with Gastec Detector Tubes only for the purposes specified in the instruction manual of the detector tube.
2. Use this tube under the temperature range of 0 - 40°C (32 - 104°F).
3. Use this tube under the relative humidity range of 0 - 90%.
4. This tube may be interfered by the coexisting gases. Please refer to the "INTERFERENCES".
5. Shelf life and storage conditions of the tube is marked on the label of the box of tube.
6. If the tubes are exposed under the sunlight for 1 hour or longer, the reagent of the tube will be deteriorated to turn out white. This does not use the tube for measurement of the gas.

APPLICATION OF THE TUBE :

Use this tube for the detection of Methyl 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.)



	Detecting Layer		
Measuring Range	0.25 - 2.5 ppm	2.5 - 70 ppm	70 - 140 ppm
Number of Pump Strokes	2 - 10	1	1/2
Correction Factor	1/2 - /10	1	2
Sampling Time	2 minutes per pump stroke		
Detecting Limit	0.1 ppm (n = 10)		
Color Change	White → Yellow		
Reaction Principle	$2\text{CH}_3\text{SH} + \text{PdSO}_4 \rightarrow (\text{CH}_3\text{S})_2\text{Pd} + \text{H}_2\text{SO}_4$		

**** Shelf Life :** Please refer to the Validity Date printed on the box of tube.

**** Store the tubes in dark and cool place.**

CORRECTION FOR TEMPERATURE, HUMIDITY AND PRESSURE :

(1) Temperature Correction : Since the tube is affected by the temperature, multiply the correction factor to the tube reading.

Temperature °C	0	10	20	30	40
(°F)	32	50	68	86	104
Correction Factor	1.3	1.1	1.0	0.95	0.95

(2) Humidity Correction : No correction is required for relative humidity range of 0 - 90%.

(3) Pressure Correction : 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 tight check of the pump insert a fresh sealed detector tube into pump. Follow instructions provided with the pump operating manual.
2. Break tips off a fresh detector tube and analyzer tube in the tube tip breaker of the pump.
3. Connect both tubes with rubber tubing supplied in the box of tubes.
4. Insert the 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 makes on pump body and handle.
6. Pull handle all the way out until it locks on 1 pump stroke (100ml). Wait 2 minute. Repeat the above sampling procedure one more time. Read concentration at the interface of the stained-to-unstained reagent.
7. If the discoloration is before the first calibration mark (2.5ppm), repeat the above sampling procedure 1-9 times without removing the tube. Obtain true concentration by diving the tube reading by 2-10.
8. If the discoloration exceeds 70 ppm by 1 pump stroke, prepare another new tube. Use 1/2 pump stroke and obtain true concentration by multiplying the tube reading by 2.

INTERFERENCES :

Substance	Concentration	Interference	Change color by itself
Acetylene, Ethylene	Less than 2000 ppm	No effect (two layer)	Discolor pale brown to whole layer
Carbon Monoxide	Less than 2000 ppm	No effect (two layer)	//
Other Mercaptans		Plus error	Discolor yellow stain
Hydrogen Sulfide	Less than 500 ppm	No effect	No stain

DANGEROUS AND HAZARDOUS PROPERTIES :

Threshold Limit Value - Time Weighted Average by ACGIH (2002): 0.5 ppm

DISPOSAL INSTRUCTION :

Reagent of the tube uses lead which is regarded toxic waste if disposed. 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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