

# GASTEC Instructions for No.4TP Hydrogen Sulphide Tube

## FOR SAFE OPERATION :

Carefully read this manual and the instruction manual of your Air Sampling Pump.

**⚠ CAUTION :** If you do not observe the following precautions, you may suffer injuries or damage to the product.

1. When breaking the tube ends, keep away from eyes.
2. Do not touch the broken glass tubes, pieces and broken reagent with bare hand(s).

**⚠ NOTES :** For maintaining performance and reliability of the test results, observe the following.

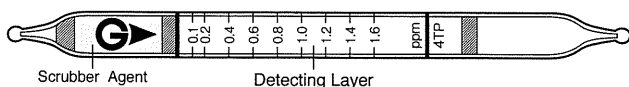
1. Recommend to use Gastec Gas Sampling device Model GSP-300FT-2 (if not available use the air sampling pump of equivalent to sample for 100 mL/min and 50 mL/min) together with Gastec Detector Tubes only for the purposes specified in the instruction manual of the detector tube.
2. Use this tube within 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 with by the coexisting gases. Please refer to the table "INTERFERENCES" below.
5. Shelf life and storage condition of the tube are marked on the label of the box of tube.

## APPLICATION OF THE TUBE :

Use this tube for the detection of Hydrogen sulphide in air or the industrial areas and environmental atmospheric condition.

## SPECIFICATION :

(Because of Gastec's commitment to continued improvement, specifications are subject to change without notice.)



Measuring Range	0.1 – 1.6 ppm	1.6 – 2.88 ppm
Sampling Rate	100 mL/min	50 mL/min
Correction Factor	1	1.8
Sampling Time	10 min	10 min
Detection Limit	0.02 ppm (1000 mL)	
Colour Change	Yellow → Pink	
Reaction Principle	Hydrogen sulphide reacts with the reagent to form intermediate material which stains indicator pink	

**Coefficient of Variation : 10% (for 0.1 to 0.4 ppm), 5% (for 0.4 to 1.6 ppm)**

**\*\*Shelf Life : Please refer to the validity date printed on the box of tube.**

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

## CORRECTION FOR TEMPERATURE, HUMIDITY AND PRESSURE :

**Temperature :** No correction is required.

**Humidity :** No correction is 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 :

If automatic air sampling pump GSP-300FT-2 is used

1. Prior to operation please confirm if black colour inlet rubber tube holder is equipped with the pump.
2. Break tips off a detector tube with the tube tip holder (optional).
3. Insert the detector tube into the pump inlet with arrow (➔) on the tube pointing toward pump.
4. Set the flow metre at 100 mL/min and timer to "10 minutes" of the pump. Press the start switch of the pump to start the sampling.
5. After the sampling, remove the detector tube from the pump.
6. Read the concentration level at the interface where the stained reagent meets the unstained reagent.
7. For measurements higher than 1.6 ppm, prepare a fresh tube. Set the flow metre at 50 mL/min and timer to "10 minutes" of the pump and start the sampling again.
8. If necessary, multiply the readings by the correction factors of sampling rate and atmospheric pressure respectively.

## INTERFERENCES :

Substance	Concentration	Interference	Changes colour by itself to
Ammonia	≥0.8 ppm	— (Yellow at the entrance of the detecting layer)	No discolouration (≤500 ppm) Pale purple (≥0.1 %)
Mercaptans		+	Pink
Hydrogen chloride	≥7.5 ppm	+	Pink (≥7.5 ppm)
Hydrogen cyanide		+	Pink
Nitric acid	≥8.5 ppm	+	Pink (≥8.5 ppm)
Sulphur dioxide	≥1.3 ppm	+	Pink (≥1.2 ppm)
Nitrogen dioxide	≥8.0 ppm	+	Pink (≥7.2 ppm)
Hydrogen fluoride	≥46.0 ppm	+	Pink (≥46.0 ppm)

The table of this interference gases primarily expresses the interference of each coexisting gas in the gas concentration range, that is equivalent to the gas concentration. Therefore, the test result may be given positive result by the other substances not listed in the table. For more information is needed, please contact us or Gastec representatives.

**DANGEROUS AND HAZARDOUS PROPERTIES :**

Threshold Limit Value-Time Weighted Average by ACGIH (2016) : 1 ppm  
Threshold Limit Value-Short Term Exposure Limit by ACGIH (2016) : 5 ppm  
Explosive Range : 4.0 – 44.0 %

**INSTRUCTIONS ON DISPOSAL :**

The reagent of the tube does not use toxic substances. When disposing the tube regardless of whether it has been used or not, follow the rules and regulations of your 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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