

#5DH

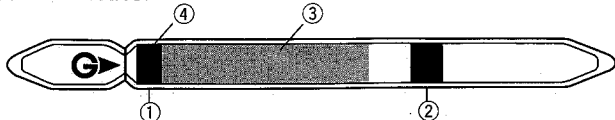
GASTEC

PASSIVE DOSIMETER TUBE FOR SULFUR DIOXIDE

GENERAL :

The Gastec Passive Dosimeter Tube No.15DH was designed to use for fumigation by SO₂ gas and provides measurement of mean value of SULFUR DIOXIDE in air by the principle of diffusion sampling. No air sampling equipment such as aspiration pump, motor driven air sampler is needed for the measurement. The calibration marks printed on each tube indicates PPM×Hour and averaged concentration can be available by dividing the sampling time measured.

PERFORMANCE :



- 1 & 2 Upper and Lower End Plug Packing
3 Analyzing Reagent
4 Score

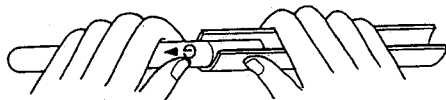
Calibration Scale	50 - 600 ppm · hour			
Color Change	Purple - White			
Measuring Range	10 - 120 ppm	12.5 - 150 ppm	25 - 300 ppm	50 - 600 ppm
Sampling Hours	5	4	2	1

* Minimum detectable concentration

Shelf Life :

Please refer to the term of validity on a Tube Box Label.

OPERATING PROCEDURE :



1. Prepare Passive Dosimeter Tube and Dosi-Tube holder No.710.
2. Record the measurement starting time on the peel off numbered label in each box of the tube and put the label on the tube.
3. Break the tube at the score of the tube with Gastec Passive Dosi-Tube Holder. Insert a part of the tube in the tube holder where the tube can be broken at the score and break the tube carefully. Remove the broken part of the tube and discard it carefully from the tube holder.
4. Insert the analyzing tube end into the tube holder. For personal sampling, put the dosi-tube holder to the shirt collar of the personnel or workplace where the measurement is required.
5. To protect the tube holder of shirt collar from dropping during operation, support the tube holder with string through a small hole of the tube holder.
6. Measurement concentration can be obtained from an hour sampling. 4 - 10 hours sampling time is recommended.
7. When the sampling is finished, record the time on the label of the tube and calculate the actual sampling time.
8. The averaged gas concentration can be obtained by the following formula:

$$\text{Average Concentration (ppm)} = \frac{\text{Dosi-tube Reading (ppm · hours)}}{\text{Actual Sampling Time}}$$

CORRECTION FOR TEMPERATURE, HUMIDITY AND PRESSURE

Calibration of the Gastec Passive Dosimeter Tube No.5DH is based on a tube temperature of 20°C (68°F) and approximately 50% relative humidity and normal atmospheric pressure.

To correct for temperature of 0 - 40°C (32 - 104°F) and relative humidity range of 10 - 90%, apply the following correction factors:

(1). Temperature and Humidity Correction Factor

Temperature	0°C (32°F)	10°C (50°F)	20°C (68°F)	30°C (86°F)	40°C (104°F)
Correction Factor	1.5	1.2	1.0	0.95	0.9

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

(3). No pressure correction is required.

CALIBRATION AND ACCURACY :

The Gastec Passive Dosimeter Tube No.5DH is carefully calibrated as an integral part of the manufacturing process. Calibration and accuracy test are performed using combinations of dynamic diffusion tube method and gas chromatographic technique.

DETECTION PRINCIPLE :

Sulfur dioxide reacts with iodine and bleach the color by iodine starch reaction and produces white color stain.



INTERFERENCES :

Interferent	Result	Comment
Hydrogen Sulfide	Plus error	Produce similar stain by itself.
Nitrogen dioxide	No effect	Produce minus error when coexisted.

DANGEROUS AND HAZARDOUS PROPERTIES:

Threshold Limit Value - Time Weighted Average by ACGIH (1997) : 2 ppm (7 - 8 hours)

STORE THE TUBES AT DARK AND COOL PLACE.

Manufacture : Gastec Corporation
6431 Fukaya, Ayase-City, 252, Japan

97K-5DH-1
Printed in Japan