GASTEC No.9P Instructions for Nitrogen Dioxide Detector 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 reagent with bare hand(s).
3. Recommend to cover the tube end with the optional safety rubber cap (No.DTP-2-20).

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

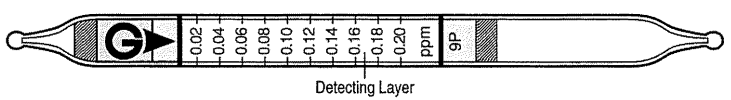
1. Recommend to use Gastec Gas Sampling device Model GSP-300FT-2 (if not available use the air sampling pump of equivalent to sample for 100 mL/min) together with Gastec Detector Tubes only for the purposes specified in the instruction manual of the detector tube.
2. Avoid use in locations which receive sunlight to the tube. The whole detector layer changes colour to light yellow in sunlight and unable to get correct value.
3. Use this tube within the temperature range of 0 - 40℃ (32 - 104℉).
4. Use this tube within the relative humidity range of 0 - 90%.
5. This tube may be interfered with by the coexisting gases. Please refer to the table "INTERFERENCES" below.
6. 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 Nitrogen dioxide 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)



Detecting Layer

Measuring Range	0.02 – 0.20 ppm
Sampling Rate	100 mL/min.
Correction Factor	1
Sampling Time	30 minutes
Detection Limit	0.004 ppm (3000 mL)
Colour Change	White → Orangish brown
Reaction Principle	NO_2 + 3,3',5,5'- tetramethylbenzidine → Orangish brown product

Coefficient of Variation : 10% (for 0.02 to 0.06 ppm), 5% (for 0.06 to 0.20 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 : Correct for temperature by the table below :

Temperature ℃ (℉)	0 - 30 (32 - 86)	35 (95)	40 (104)
Correction Factor	1.0	1.1	1.2

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 Model 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 supplied.
3. Insert the tube into the pump inlet with arrow (G►) on the tube pointing toward pump.
4. Set the flow metre at 100 mL/min and timer to "30 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. If necessary, multiply the readings by the correction factors of temperature and atmospheric pressure respectively.

INTERFERENCES :

Substance	Concentration	Interference	Changes colour by itself to
Carbon monoxide		No	No discolouration
Nitric oxide		No	No discolouration
Chlorine	≦0.10 ppm	No	Reddish brown from 0.08 ppm
Ozone	≦0.04 ppm	No	Pale yellow from 0.10 ppm
Carbon dioxide		No	No discolouration
Acetone		No	No discolouration
p-Dichlorobenzene		No	No discolouration
n-Decane		No	No discolouration
Aromatic hydrocarbons		No	No discolouration
Formaldehyde		No	No discolouration

This table of 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 (2015) : 0.2 ppm

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.

Manufacturer : Gastec Corporation
8-8-6 Fukayanaka, Ayase-City, Kanagawa 252-1195, Japan
http://www.gastec.co.jp/
Telephone +81-467-79-3910 Facsimile +81-467-79-3979

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