

GASTEC Instructions for No.113TP Isopropyl Alcohol 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).

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

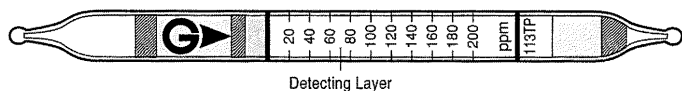
1. Recommend to use Gastec Gas Sampling device Model GSP-300FT-2 (if not available use the air sampler of equivalent to sample for 100 mL/min) together with Gastec Detector Tubes only for the purposes specified in the instruction manual of the detector tube.
2. Use this tube within the temperature range of 0 - 40°C (32 - 104°F).
3. Use this tube within the relative humidity range of 10 - 90%.
4. The detecting layer changes colour to yellow when used in high-humidity environment, but there is no effect on tube readings.
5. This tube may be interfered with by the coexisting gases. Please refer to the table "INTERFERENCES" below.
6. The 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 Isopropyl alcohol 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	20 – 200 ppm	200 – 400 ppm
Sampling Rate	100 mL/min	100 mL/min
Correction Factor	1	2
Sampling Time	10 minutes	5 minutes
Detecting Limit	5 ppm (1000 mL)	
Colour Change	Pale vermilion → Pale blue	
Reaction Principle	$\text{CH}_3\text{CH}(\text{OH})\text{CH}_3 + \text{Cr}^{6+} + \text{H}_2\text{SO}_4 \rightarrow \text{Cr}^{3+}$	

Coefficient of Variation: 10% (for 20 to 60 ppm), 5% (for 60 to 200 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 with the tables below :

Temperature°C(°F)	0°C (32°F)	5°C (41°F)	10°C (50°F)	15°C (59°F)	20°C (68°F)	25°C (77°F)	30°C (86°F)	35°C (95°F)	40°C (104°F)
Correction factor	1.45	1.25	1.20	1.10	1.00	0.95	0.90	0.85	0.80

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 sampler Model GSP-300FT-2 is used

1. Prior to operation please confirm if black colour inlet rubber tube holder is equipped with the sampler.
2. Break both end of the tips of the detector tube by the tube tip holder supplied. Connect the detector tube to the pump with arrow (▶) on the tube pointing toward pump.
3. Set the flow metre at 100 mL/min and timer to "10 minutes" of the sampler. Press the start switch of the sampler to start the sampling.
4. After the sampling, remove the detector tube from the sampler.
5. Read the concentration level at the interface where the stained reagent meets the unstained reagent.
6. For measurements higher than 200 ppm, prepare a fresh tube. Set the flow metre at 100 mL/min and timer to "five minutes" of the sampler and start the sampling again.
7. If necessary, multiply the readings by the correction factors of temperature, sampling time and atmospheric pressure.

INTERFERENCES:

Substance	Interference	Interference gas only
Alcohols	+	Pale blue
Acetone, Ethyl acetate, Toluene	No	No discolouration
n-Hexane, Benzene	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): 200 ppm
 Threshold Limit Value-Short Term Exposure Limit by ACGIH (2015): 400 ppm

INSTRUCTIONS ON DISPOSAL:

The reagent of the tube uses a small amount of hexavalent chromium. 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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