

# GASTEC Instructions for No.122P Toluene Detector Tube

## FOR SAFE OPERATION :

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

**⚠ CAUTION : If not observed, injuries 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**

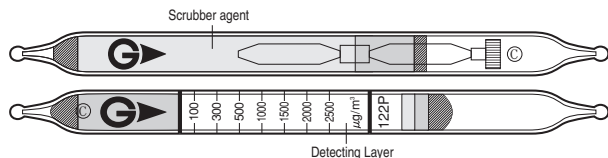
1. Recommend to use Gastec Gas Sampling device Model GSP-300FT-2 (if not available use the air sampler of equivalent to sample for 50ml/min ) together with Gastec Detector Tubes only for the purposes specified in the instruction manual of the detector tube.
2. Use this tube under the temperature range of 5 - 35°C (41 - 95°F).
3. Use this tube under the relative humidity range of 0 - 80%.
4. This tube may be interfered by the coexisting gases. Please refer to the "INTERFERENCES".
5. Shelf life and storage condition of the tube is marked on the label of the box of tube.

## APPLICATION OF THE TUBE :

Use this tube for the detection of Toluene in air of environmental atmospheric condition.

## SPECIFICATION :

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



Measuring Range	100 - 2500 $\mu\text{g}/\text{m}^3$	2500 - 7000 $\mu\text{g}/\text{m}^3$
Sampling Rate	200 mL/min	200 mL/min
Correction Factor	1	2.8
Sampling Time	30 min	10 min
Detecting Limit	50 $\mu\text{g}/\text{m}^3$ (6000 mL)	
Colour Change	White → Pale Brown	
Reaction Principle	Toluene reduced by iodine pentoxide to liberate iodine to discolour the reagent to pale brown in colour.	

**\*\* 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 for 5 - 35°C (41 - 95°F).

**Humidity :** No correction is not required for 0 - 80% R.H.

**Pressure :** To correct for pressure, multiply by the tube reading by

$$\frac{\text{Tube Reading } (\mu\text{g}/\text{m}^3) \times 1013 \text{ (hPa)}}{\text{Atmospheric Pressure (hPa)}}$$

## MEASUREMENT PROCEDURE :

**If automatic air sample 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 pretreatment tube and detector tube by the tube tip holder supplied. Connect both tubes with rubber tubing supplied in the box of tubes.
3. Insert the detector tube securely into pump inlet with arrow (G) on the tube pointing toward pump.
4. Set the flow meter at 200mL/min and timer to "30 minutes" of the sampler. Press the power switch of the sampler to start the sampling.
5. After the sampling, remove the detector tube from the sampler.
6. Read the concentration from the length of dis coloration of the tube. If the discoloration exceeded the 2500  $\mu\text{g}/\text{m}^3$  level, prepare fresh detector tube. Reset the sampler at flow rate of 200 mL/min and "10 minutes" of the timer and start the sampling again.
7. If correction is needed after sampling, multiply the correction factor of the temperature, sampling volume and pressure respectively.

## INTERFERENCES :

Substance	Concentration	Interference	Changes colour by itself to
Ethyl alcohol		No	No
Xylene, Styrene	$\geq 1000 \mu\text{g}/\text{m}^3$	+	Pale brown
p-Dichlorobenzene		No	No
$\alpha$ -pinene		No	No
n-Hexane		No	No
Aromatic HCs		+	Pale brown
Formaldehyde	$\leq 1/3$ times	No	No

The table of this interference gases primarily expresses the interference of each coexisting gas in the gas concentration range, equivalent to the gas concentration. Therefore, the test result may be given positive result by the other substances not listed in the table. Please contact us or distributors in your territory for more information if necessary .

## APPLICATION FOR OTHER GASES :

Tube 122P can also be used for other substances as below :

Substance	Correction Factor	Sampling Correction	Measuring Range
Ethyl benzene	1.1	200 mL/min x 30 min	110 - 2750 $\mu\text{g}/\text{m}^3$
Xylene	5.4	200 mL/min x 30 min	540 - 13500 $\mu\text{g}/\text{m}^3$

## CORRECTION FACTOR :

Detector tubes are primarily designed to measure specific gases. But it is also possible to measure other substances of similar chemical properties with the aid of a correction factor or chart. Therefore, please make use of the correction factor/chart measuring ranges as a reference. For more informations is needed, please contact us distributors in your territory.

## DISPOSAL INSTRUCTION :

Reagent of the detector tube contains a small amount of hexavalent chromium. Reagent of the pretreatment tube does not use toxic substances. When dispose of 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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