

# GASTEC Instructions for No.107 Polytec I Qualitative Analysis Test Tube

## FOR SAFE OPERATION :

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

### ⚠ WARNING :

1. Use only Gastec detector tubes in a Gastec Pump.
2. Do not interchange or use non-Gastec parts or components in Gastec's detector tube and pump system.
3. The use of non-Gastec parts or components in Gastec's detector tube and pump system, or use of a non-Gastec detector tube with a Gastec pump, or use of a Gastec detector tube with a non-Gastec pump may result in property damage, serious bodily injury, and death; voids all warranties; and voids all performance and data accuracy guarantees.

### ⚠ CAUTION : If you do not observe the following precautions, you may suffer injuries or damage 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. The sampling time represents the time necessary to draw the air sample through the tube. The tube must be positioned in the desired sampling area for the entire sampling time or until the flow finish indicator indicates the end of the sample.

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

1. Use Gastec Gas Sampling Pump 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 Qualitative Analysis for Unknown Gases listed in the Specifications 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	Qualitative
Number of Pump Strokes	3
Sampling Time	30 seconds per pump stroke
Colour Change	Refer to Table 1
Reaction Principle	Substance + I <sub>2</sub> O <sub>5</sub> + H <sub>2</sub> S <sub>2</sub> O <sub>7</sub> → I <sub>2</sub>

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

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

## MEASUREMENT PROCEDURE :

1. For checking the leakage of the pump, insert a fresh sealed detector tube into the pump. Follow instructions provided with the pump operating manual.
2. Break tips off a fresh detector tube with the tube tip breaker of the pump.
3. Insert the tube into the pump inlet with arrow (➔) on the tube pointing toward pump.
4. Make certain the pump handle is all the way in. Align guide mark on the pump body with the guide mark on the handle.
5. Pull the handle all the way out until it locks at one pump stroke (100 mL). Wait 30 seconds and confirm the completion of the sampling. Repeat the above sampling procedure two more times, then refer to the table below:

Table 1 Colour Change

Substance	Concentration (ppm)	Colour Change
Carbon monoxide	≧10	Green or Brown
Carbon disulphide	≧1	Green
Hydrogen sulphide	≧1	Green
Acrylonitrile	≧500	Yellowish brown
Acetylene	≧10	Brown or Green
Acetone	≧1000	Brown or Green
Ethylene	≧70	Brown or Green
Gasoline	≧100	Brown
Cyclohexane	≧6000	Green
Styrene	≧10	Yellow or Brown
Trichloroethylene	≧15	Pale brown
Toluene, Xylene	≧10	Purple
tert-Butyl alcohol	≧1500	Brown
Propane, Propylene	≧100	Brown
n-Hexane	≧1800	Green
Benzene	≧20	Brown

## INSTRUCTIONS ON DISPOSAL :

The reagent of the tube uses a small amount of selenium. 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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IM00107E2  
Printed in Japan  
19A1Z