

Gastec 121SP

Gastec Gas Detector Tube 121SP Benzene User Manual

Model: 121SP

1. INTRODUCTION

The Gastec Gas Detector Tube 121SP Benzene is designed for the accurate and reliable measurement of benzene concentrations in air. This manual provides essential information for the safe and effective use of the detector tube, including setup, operation, maintenance, and specifications. Please read this manual thoroughly before using the product.

2. SAFETY PRECAUTIONS

Always adhere to the following safety guidelines to prevent injury or damage to the product.

- Read and understand this manual completely before operation.
- Use the detector tube only for its intended purpose as specified.
- Handle detector tubes with care. They contain chemicals and glass components.
- Always wear appropriate personal protective equipment (PPE), such as safety glasses and gloves, when handling tubes.
- Perform measurements in a well-ventilated area.
- Dispose of used tubes according to local regulations for chemical waste.

3. PRODUCT OVERVIEW

The Gastec 121SP Benzene detector tube is a single-use, colorimetric tube designed to react with benzene gas, producing a visible stain length proportional to the gas concentration. Each box contains multiple tubes for repeated measurements.



Image: Gastec Gas Detector Tube 121SP Benzene packaging and tubes.

4. SETUP

Before performing a measurement, ensure you have the Gastec Gas Sampling Pump (sold separately) and the 121SP Benzene detector tube.

1. Verify the detector tube is the correct type (121SP Benzene) and within its expiration date.
2. Break both ends of the detector tube using the tube tip breaker on the Gastec pump or a separate tube breaker. Ensure a clean break without jagged edges.
3. Insert the detector tube into the rubber inlet of the Gastec pump with the arrow on the tube pointing towards the pump.



Image: A Gastec detector tube held in hand, illustrating its compact size.

5. OPERATING INSTRUCTIONS

Follow these steps to perform a measurement using the Gastec pump and 121SP Benzene detector tube:

1. Ensure the pump handle is fully pushed in.
2. Align the guide marks on the pump handle and cylinder.
3. Pull the pump handle out fully until it locks into place at the 100 mL mark. This indicates one full pump stroke.
4. Wait for the specified sampling time (refer to the tube's instructions or the pump manual, typically 1 minute per stroke). The standard suction count for this tube is 3.
5. After the sampling time, push the handle back in. Repeat the pumping action for the required number of strokes ($n=3$ for 121SP Benzene).
6. After completing all strokes, remove the detector tube from the pump.

6. READING MEASUREMENT RESULTS

The 121SP Benzene detector tube changes color in the presence of benzene. The concentration is determined by the length of the stain produced on the reagent layer.

- Read the concentration directly from the scale printed on the detector tube at the end of the stain.
- If the stain extends beyond the highest mark on the scale, the concentration is above the maximum detection limit.
- If the stain is shorter than the lowest mark, the concentration is below the minimum detection limit.
- Note any specific instructions on the tube packaging regarding temperature or humidity corrections.

7. MAINTENANCE AND STORAGE

Proper maintenance and storage ensure the longevity and accuracy of your detector tubes.

- Store unused detector tubes in their original packaging in a cool, dark place, away from direct sunlight and extreme temperatures.
- Ensure the storage area is free from chemical vapors that could affect the tubes.
- Do not use tubes past their expiration date, as their accuracy may be compromised.
- Keep tubes dry and avoid exposure to moisture.



Image: Gastec Gas Detector Tube boxes, illustrating proper storage in original packaging.

8. TROUBLESHOOTING

If you encounter issues during operation, refer to the table below for common problems and solutions.

Problem	Possible Cause	Solution
No color change or faint stain	Gas concentration too low; Expired tube; Incorrect number of pump strokes.	Verify gas presence with another method; Use a fresh tube; Ensure correct pump strokes.
Stain length inconsistent	Improper tube breaking; Pump leakage; Environmental factors.	Ensure clean tube breaks; Check pump for leaks; Account for temperature/humidity.
Tube breaks during insertion/removal	Excessive force; Defective tube.	Handle with care; Discard and use a new tube.

9. SPECIFICATIONS

Parameter	Detail
Detector Tube Name	121SP Benzene
Measurements per Box	5
Shelf Life	2 years
Target Gas	Benzene
Measurement Range	0.2 - 66 ppm
Standard Suction Count (n)	3
Special Notes	Removes aromatic hydrocarbons other than benzene.

10. DISPOSAL

Used detector tubes contain chemical reagents and glass. They must be disposed of in accordance with all applicable local, regional, and national regulations for chemical or hazardous waste. Do not dispose of tubes in general waste or by incineration without proper authorization.

11. WARRANTY AND SUPPORT

Specific warranty terms and detailed support information for the Gastec Gas Detector Tube 121SP Benzene are not provided in this manual. For warranty claims, technical support, or further inquiries, please contact your authorized Gastec distributor or the manufacturer directly. Keep your purchase receipt as proof of purchase.