

GASTEC Instructions for No.134 Carbon Tetrachloride Detector Tube

FOR SAFE OPERATION :

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

⚠ 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 guaranties.

⚠ 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, piece 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 to the test result

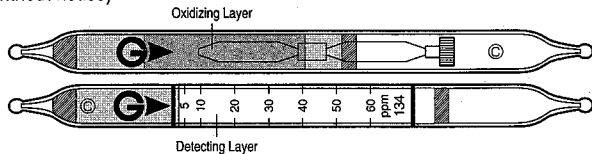
1. Use Gastec Gas Sampling Pump together with Gastec Detector Tubes only for the purposes specified in the instruction manual of the detector tube.
2. Use this tube under the temperature range of 0 - 40°C (32 - 104°F).
3. Use this tube under the relative humidity range of 0 - 90%.
4. This tube may be 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 Carbon Tetrachloride in air or the industrial areas and environmental atmospheric condition.

SPECIFICATION :

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



Measuring Range	Detecting Layer	
	0.5 - 2.5 ppm	2.5 - 60 ppm
Number of Pump Stroke	2 - 5	1
Correction Factor	1/2 - 1/5	1
Sampling Time	1.5 minutes per pump stroke	
Detecting Limit	0.2 ppm (n = 5)	
Color Change	White → Yellow	
Reaction Principle	Carbon tetrachloride react with reagent to produce intermediate products in the primary tube. The intermediate products react with reagent in the analyzer tube to produce yellow stain.	

** Shelf Life : Please refer to the Validity Date printed on the box of tube.

** Store the tube in the refrigerator to keep at 10°C (50°F) or below.

CORRECTION FOR TEMPERATURE, HUMIDITY AND PRESSURE:

1. Temperature: Temperature correction is not required.
2. Humidity: Humidity correction is not required.
3. Pressure: To correct for pressure, multiply by the tube reading by

$$\frac{\text{Tube Reading (ppm)} \times 1013 \text{ (hPa)}}{\text{Atmospheric Pressure (hPa)}}$$

MEASUREMENT PROCEDURE :

1. For leak tight check of the pump insert a fresh sealed detector tube into pump. Follow instructions provided with the pump operating manual.
2. Break tips off a fresh primary and detector tube in the tube tip breaker of the pump. Connect the both tubes marked with © using the rubber tubing supplied.
3. Insert the detector tube securely into pump inlet with arrow (G) on the tube pointing toward pump.
4. Make certain pump handle is all the way in. Align guide marks on pump body and handle.
5. Pull handle all the way out until it locks on 1 pump stroke (100ml). Wait 1.5 minutes.
6. For lower than 2.5 ppm measurement, repeat the above sampling procedure up to four(4) more times until the stain attains to the first calibration mark.
7. Read concentration at the interface of the stained-to-unstained reagent.
8. If atmospheric correction is needed, refer to the "Corrections for Pressure".

INTERFERENCES :

Substance	Concentration	Result	Change color by itself
Hydrogen chloride	100ppm or higher	Plus error	Produce yellow stain
Chlorine, Bromine	50ppm or higher	Plus error	Produce yellow stain
Vinyl chloride, Methylene chloride		None	No discoloration
Chloroform		None	No discoloration
Methyl bromide	100ppm or higher	Plus error	Produce yellow stain
Perchloroethylene		None	No discoloration
Methyl chloroform	100ppm or higher	Plus error	Produce yellow stain
Trichloroethylene		None	No discoloration

APPLICATION FOR OTHER GASES :

Tube 134 can also be used for other substances as below :

Substance	Correction Factor	pump strokes	Measuring range
Chloropicrin	1	1	2.5 - 60 ppm

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 measuring ranges as a reference. For a more precise factor please contact your Gastec representative.

DANGEROUS AND HAZARDOUS PROPERTIES :

Threshold Limit Value-Time Weighted Average by ACGIH (2000) : 5 ppm(7-8 hours)
Threshold limit Value-Short Term Exposure Limit by ACGIH(2000):10ppm(15min.)

DISPOSAL INSTRUCTION :

Reagent of the tube does not use toxic substances. therefore. On disposing 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.