

GASTEC Instructions for No.137 Chloroform 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 guarantees

⚠ CAUTION : If not observed, injuries to the operator or damage to the product may result.

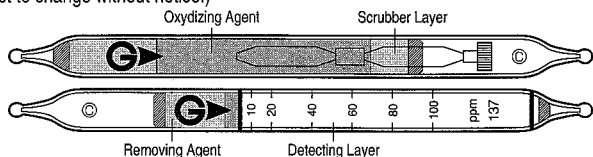
1. When breaking the tube ends, keep away from eyes.
2. Do not touch the broken glass tubes, pieces and reagent with bare hand(s).
3. The sampling time represents the time necessary to draw the air sample through the tube. The tube must be positioned in the desired sampling area for the entire sampling time or until the flow finish indicator indicates the end of the sample.

⚠ NOTES : For maintaining performance and reliability of the test 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.
6. If the tubes are exposed under the sunlight for 1 hour or longer, the reagent of the tube will be deteriorated to turn to white and cannot use the tube for measurement of the gas.

APPLICATION OF THE TUBE : Use of this tube for the detection of Chloroform for 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	4 - 10 ppm	10 - 100 ppm	100 - 400 ppm
Number of Pump Strokes	7	5	3
Correction Factor	0.4	1	4
Sampling Time	2 minutes per pump stroke		
Detecting Limit	1 ppm (n = 7)		
Color Change	White → Orange		
Reaction Principle	Chloroform is oxidized by nascent oxygen to liberate chlorine. It reacts with o-tolidine to produce orange stain.		

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

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

CORRECTION FOR TEMPERATURE, HUMIDITY AND PRESSURE :

Temperature : Temperature correction is not required.

Humidity : Humidity correction is required. Obtain true concentration by the following formula:
True Concentration = Tube reading × 10 / Absolute Humidity

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 detector tube and analyzer tube in the tube tip breaker of the pump.
3. Connect both tubes with rubber tubing supplied in the box of tubes.
4. Insert the analyzer tube securely into pump inlet with arrow (G) on the tube pointing toward pump.
5. Make certain pump handle is all the way in. Align guide marks on pump body and handle.
6. Pull handle all the way out until it locks on 1 pump stroke (100ml). Wait 2 minutes. Repeat four (4) more times.
7. For lower than 10 ppm measurement, repeat the above sampling procedure two more times until the stain attained to the first calibration mark. In case the discoloration is extended over the full scale, prepare fresh tube and take 3 pump strokes.
8. Read concentration at the interface of the stained-to-unstained reagent.
9. If atmospheric correction is needed, refer to the "Correction for Temperature, and Pressure".

INTERFERENCES :

Substance	Concentration	Interference	Change color by itself
Cl ₂ , Br ₂ , I ₂	1/20 times or more	Plus error	Discolors to Orange
Unsaturated halogenated HCs	//	Plus error	Discolors to Orange
Saturated halogenated HCs	1/10 times or more	Plus error	Discolors to Orange

DANGEROUS AND HAZARDOUS PROPERTIES :

Threshold Limit Value-Time Weighted Average by ACGIH (2000) :10 ppm (7-8 hours)

DISPOSAL INSTRUCTION : Reagent of the tubes use toxic chromic acid, on disposing the tube regardless of used or 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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IM00137E1
Printed in Japan
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