GASTEC No.137LA Instructions for Chloroform Detector Tube

FOR SAFE OPERATION :
Carefully read this manual and the instruction manual of your Gastec Gas Sampling Pump.

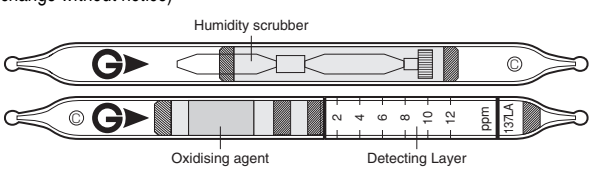
⚠ WARNING :
1. Use only Gastec detector tubes in a Gastec Pump.
2. Do not interchange or use non-Gastec parts or components in Gastec's detector tube and pump system.
3. Using non-Gastec parts or components in Gastec's detector tube and pump system or using a non-Gastec detector tube with a Gastec pump or using a Gastec detector tube with a non-Gastec pump may damage your detector tube and pump system, or may cause serious injuries, or death to the end-user; it will also void all warranties; and guarantees regarding performance and data accuracy.

⚠ 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 sampling.

△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 under the temperature range of 0 - 40℃(32 - 104℉).
3. Use this tube under the relative humidity range of 0 - 90%.
4. This tube may be interfered with by the coexisting gases. Please refer to the "INTERFERENCES" below.
5. The shelf life and storage conditions of the tube are marked on the label of the box of tube.
6. Do not expose the tube to direct sunlight. Sunlight may discolor the reagent pale purple and inaccurate measuring result may be given.

APPLICATION OF THE TUBE : Use this tube for the detecting Chloroform in the air or in the industrial areas and for determining the environmental atmospheric condition.

SPECIFICATION : (Because of Gastec's commitment to continued improvement, specifications are subject to change without notice)



Measuring Range	0.5 - 2 ppm	2 - 12 ppm	12 - 30 ppm
Number of Pump Stroke	4	2	1
Correction Factor	0.25	1	2.5
Sampling Time	2 minutes per pump stroke		
Detecting Limit	0.2 ppm (n = 4)		
Colour Change	White → Pale Purple		
Reaction Principle	Chloroform is oxdised by reactant to form intermediate material which reacts with reagent to produce pale purple stain.		

Coefficient of Variation : 10% (for 2 to 4 ppm), 5% (for 4 to 12 ppm)
**** Shelf Life : Please refer to the Validity Date printed on the box of tube.**
**** Store the tube in the refrigerator to keep at 10℃ (50℉) or below.**

CORRECTION FOR TEMPERATURE, HUMIDITY AND PRESSURE:

Temperature ℃ (℉)	0 (32℉)	5 (41℉)	10 (50℉)	15 (59℉)	20 (68℉)	25 (77℉)	30 (86℉)	35 (95℉)	40 (104℉)
Correction Factor	2.30	1.90	1.50	1.25	1.0	0.85	0.75	0.70	0.70

Humidity : No correction is required.
Pressure : To correct for pressure, use the formula below.

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

MEASUREMENT PROCEDURE :
1. For checking the leakage of the pump, insert a freshly sealed detector tube into pump. Follow the instructions provided with the pump operating manual.
2. Break the tips off a fresh primary tube and analyser tube using the tube tip breaker of the pump.
3. Connect ⓒ marked ends with rubber tubing after breaking each end.
4. Insert the analyser tube securely into pump inlet with arrow (G►) on the tube pointing toward the pump.
5. Make certain the pump handle is all the way in. Align guide marks on pump body with the guide marks on the handle.
6. Pull the handle all the way out until it locks at one pump stroke (100 mL). Wait two minutes and confirm the completion of the sampling. Repeat the above sampling procedure one more time.
7. For smaller measurements less than 2 ppm, repeat the above sampling procedure two more times. For measurements higher than 12 ppm, prepare a fresh tube and perform one pump stroke.
8. Read concentration level at the interface where the stained reagent meets the unstained reagent.
9. If necessary, multiply the reading by the correction factors of the pump strokes and atmospheric pressure respectively.

INTERFERENCES :

Substance	Concentration	interference	interference gas only
Chlorine		No	No discoloration
Bromine		No	No discoloration
Iodine		No	No discoloration
Saturated halogenated hydrocarbons		+	Pale purple
Unsaturated halogenated hydrocarbons		+	Pale purple

The table of this interference gases primarily expresses the interference of each coexisting gas in the gas concentration range, that is equivalent to the gas concentration. Therefore, the test result may show positive result due to other substances not listed in the table. If more information is needed, please contact us or our distributors in your territory.

DANGEROUS AND HAZARDOUS PROPERTIES :
Threshold Limit Value-Time Weighted Average by ACGIH (2009) : 10 ppm

INSTRUCTIONS ON DISPOSAL :
Reagent of the tube dose not use toxic substance. When disposing the tube regardless of whether it has been used or not, 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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