GASTEC No.92LA Instructions for Acetaldehyde 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. 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.

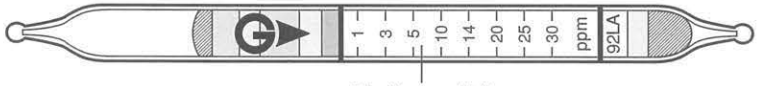
1. Use Gastec Gas Sampling Pump together with Gastec Detector Tubes only for the purposes specified in the instruction manual of the detector tube.
2. Use this tube within the temperature range of 5 - 40°C (41 - 104°F).
3. Use this tube within the relative humidity range of 10 - 90%.
4. This tube may 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.
6. If this tube is exposed under the direct sunlight, the reagent of the tube may be turned to pale ocher an inaccurate result may be given.

APPLICATION OF THE TUBE :

Use this tube for detecting Acetaldehyde in the air or in 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.)



Detecting layer (pink)

Measuring Range	0.3 - 1 ppm	1 - 30 ppm
Number of Pump Strokes	2	1
Correction Factor	0.3	1
Sampling Time	2.5 minutes per pump stroke	
Detecting Limit	0.13 ppm (n=2)	
Colour Change	Pink → Yellow	
Reaction Principle	$CH_3CHO + Cr^{6+} \rightarrow CH_3CO_2H$ $CH_3CO_2H + NaOH \rightarrow CH_3CO_2Na$	

Coefficient of Variation : 15% (for 1 to 10 ppm), 10% (for 10 to 30 ppm)
****Shelf Life: Please refer to the validity date printed on the box of tubes.**
****Store the tubes in a cool and dark place.**

CORRECTION FOR TEMPERATURE, HUMIDITY AND PRESSURE :

Temperature : Correct for temperature with the table below:

Temperature ℃(℉)	5(41)	10(50)	15(59)	20(68)	25(77)	30(86)	35(95)	40(104)
Correction Factor	2.54	1.61	1.23	1.00	0.90	0.82	0.68	0.58

Humidity : No correction is required between 10 - 90% R.H.

Pressure : To correct for pressure, use the formula below

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

* This value is after other correction(s), if any, are applied.

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 (G►) on the tube pointing toward pump.
4. Make certain the pump handle is all the way in. Align the 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 2.5 minutes and confirm the completion of the sampling.
6. For smaller measurements less than 1 ppm, repeat the above sampling procedure one more time until the stain reaches the first calibration mark.
7. Read concentration level at the interface where the stained reagent meets the unstained reagent.
8. If temperature correction is necessary, obtain the true concentration by using temperature correction factor. Afterwards multiply the correction factor of pump stroke if necessary.
9. If pressure correction is necessary, use the pressure correction formula.

INTERFERENCES :

Substance	Concentration	Interference	Changes colour by itself to
Ammonia	4 times	No	No discolouration (125 ppm)
Ethanol	≧ 7 ppm	+	Yellow (≧ 0.5 ppm)
Acetic acid	7 times	No	No discolouration (200 ppm)
Methyl mercaptan	8 ppm	No	No discolouration (23 ppm)
Hydrogen sulphide	≧ 1 ppm	+	Yellow (≧ 1 ppm)
Trimethylamine	≦ 450 ppm	No	No discolouration (4700 ppm)
Formaldehyde	≧ 19 ppm	+	Yellow (≧3.5 ppm)
Acetone	≦ 70 ppm	No	No discolouration (≦400 ppm)
Diacetyl	≧ 11 ppm	+	Yellow (≧5 ppm)
Ozone	≧ 0.1 ppm	−	Bleaching (≧ 1 ppm)

The table of 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 be given a positive result from other substances not listed in the table. If more information is needed, please contact us or your Gastec representatives.

DANGEROUS AND HAZARDOUS PROPATIES :

Threshold Limit Value-Ceiling by ACGIH (2023) : 25 ppm

INSTRUCTIONS ON DISPOSAL :

The reagent of the tube uses a small amount of hexavalent chromium. 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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