

INSTRUCTION MANUAL

No. 2 3 8 S

Kitagawa FURFURYL ALCOHOL DETECTOR TUBES

- ★ READ CAREFULLY THIS INSTRUCTION MANUAL AND THE INSTRUCTIONS OF THE ASPIRATING PUMP PRIOR TO USING THIS PRODUCT.
- ★ DON'T DISCARD THIS INSTRUCTION MANUAL UNTIL ALL THE TUBES IN THIS BOX ARE USED UP.

1. PERFORMANCE:

Measuring Range

and Sampling Time: 2-25ppm (5 pump strokes, 5 minutes)

Colour Change: * White → Black

Detectable Limit: 0.5ppm (5 pump strokes)

Operating temperature: 10-40 °C (50-104°F) (No corrections are necessary.)

Aspirating Pump: Model AP-1, 400A or 400

* Pale orange stain is sometimes remaining to the original colour (white) of the reagent in the tube but there is not any influence in performance.

CAUTION

1. DETECTOR TUBE CONTAINS CORROSSIVE REAGENTS. (SODIUM DICHROMATE - E.)

2. DON'T TOUCH THESE REAGENTS DIRECTLY ONCE TUBES ARE BROKEN.

3. KEEP THE TUBES OUT OF THE REACH OF CHILDREN.

NOTICE

1. USE ONLY THE PUMP MODELS SPECIFIED ABOVE, OR ANY CONSIDERABLE ERROR IN INDICATION MAY CAUSED.
2. DON'T USE FLOW CONTROL ORIFICE WITH THIS TUBE. (FOR MORE DETAIL, REFER TO THE INSTRUCTIONS OF THE ASPIRATING PUMP.)
3. BEFORE TESTING, CHECK THE ASPIRATING PUMP FOR LEAKS (REF. ITEM 8). ANY PUMPS SHOWING SIGNS OF LEAKAGE SHOULD BE CORRECTED BEFORE USE.
4. DON'T USE THIS TUBE OUTSIDE THE STATED OPERATING TEMPERATURE RANGE.
5. STORE TUBES IN A COOL AND DARK PLACE (0-25 °C/32-77°F), AND USE BEFORE EXPIRATION DATE PRINTED ON TOP OF THE BOX.
6. PRIOR TO USE, READ CAREFULLY ITEM 9 "USER RESPONSIBILITY".

2. SAMPLING AND MEASUREMENT:

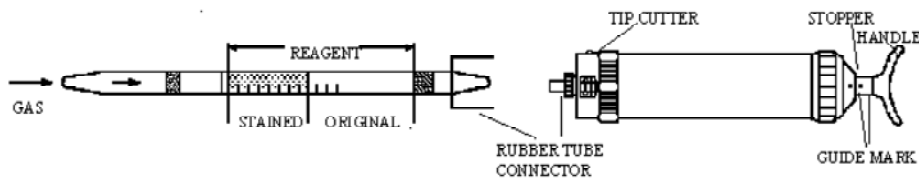


Fig.1

- ① Break both ends of detector tube.

CAUTION SAFETY GLASSES AND GLOVES SHOULD BE WORN TO PREVENT INJURY FROM SPLINTERING GLASS.

- ② Insert the detector tube into aspirating pump securely as shown in Fig.1. (Arrow mark shall point to the pump.)
- ③ Align the guide marks on the shaft and stopper of the aspirating pump.
- ④ Pull pump handle to full stroke until it locks and wait for 1 minutes or until confirmation that sampling is completed (See descriptions of the flow indicator in the pump instructions).

NOTE: If using model 400, pull pump handle to full stroke and turn the handle by 1/4 turn to lock, then wait for 1 minutes.

- ⑤ Push the handle without removing the detector tube from the inlet, and air in the pump will be discharged perfectly. Then repeat the step ③~④ for 4 times.

- ⑥ On completion of sampling, read the scale at the maximum point of the stained layer.

SPECIAL NOTE: I. The scale is calibrated at 20 °C (68°F) and 1013hPa. Readings obtained in other circumstances should be corrected (REF. ITEM 3).

II. When the top of the stained layer is unclear, read the scale at the centre between the longest and shortest points. The total stain length should be read, even if the stained layer gets multicolour discolouration.

3. CORRECTION FOR AMBIENT CONDITIONS:

- ① Temperature; No corrections are necessary. 10-40 °C (50-104°F).
- ② Humidity; No corrections are necessary (RH20 ~ 90 %).
- ③ Atmospheric Pressure;

$$\text{True concentration} = \text{Temperature corrected concentration} \times \frac{1013}{\text{Atmospheric pressure (in hPa)}}$$

4. INTERFERENCES:

Methanol, Toluene, Hexane, Ethyl acetate does not affect readings.

5. CHEMICAL REACTION IN THE DETECTOR TUBE:

A polymer of Furfuryl alcohol is produced. by chlromium acid.

6. DISPOSAL OF TUBE:

USED TUBES SHOULD BE DISCARDED CAREFULLY ACCORDING TO RELEVANT REGULATIONS, IF ANY.

7. HAZARDOUS AND DANGEROUS PROPERTIES OF FURFURYL ALCOHOL:

T.L.V.◆: 10 ppm

Explosive range in air : 1.8-16.3 %

- ◆ Threshold Limit Value established by the American Conference of Governmental Industrial Hygienists, 2000.

8. INSPECTION OF ASPIRATING PUMP:

Checking for leaks;

- ① Insert sealed, unbroken detector tube into the pump.
- ② Align the guide marks on the shaft and stopper of the pump.
- ③ Pull the handle to full stroke and wait for 3 minutes. (If using model 400, turn the handle by 1/4 turn to lock.)
- ④ Unlock the handle and allow the handle to seek its own stopping point slowly by holding the cylinder and handle securely.

CAUTION HANDLE WILL TEND TO SNAP BACK INTO THE PUMP QUICKLY.

- ⑤ If the handle returns completely to the original position, the performance is satisfactory. Otherwise, refer to maintenance procedure in the pump instructions to correct the fault.

9. USER RESPONSIBILITY:

It is the sole responsibility of the user of this equipment to ensure that the equipment is operated, maintained, and repaired in strict accordance with these instructions and the instructions provided with each Model AP-1, 400A or 400 aspirating pump, and that detector tubes are not used which are either beyond their expiration date or have a colour change different to that stated in the Performance specifications.

The Manufacturer and Manufacturer's Distributor shall not be otherwise liable for any incorrect measurement or any damages, whether damages result from negligence or otherwise.

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