

1,1,1-TRICHLOROETHANE LENGTH-OF-STAIN DETECTOR TUBES

(METHYL CHLOROFORM)

(Type S)

(Direct Reading Type)

PERFORMANCE:

Measuring Range	: 30 — 400ppm	15 — 30ppm
Sampling Time	: 1.5minutes (1 pump stroke)	3minutes (2 pump strokes)
	The graduations printed on the tube are for 1 pump stroke.	
Colour Change	: White — Yellowish orange	
Detectable Limit	: 10ppm (2 pump strokes)	
Storage Condition	: In refrigerated place, 0-10°C (32-50°F)	
Aspirating Pump	: Model 400, 400A or AP-1	

FLOW CONTROL ORIFICE SUPPLIED WITH PUMPS PRIOR TO SEPTEMBER, 1985 SHOULD NOT BE USED WITH THIS TUBE.

READ CAREFULLY THE "USER RESPONSIBILITY" SECTION PRIOR TO USING THIS PRODUCT.

PRETREAT TUBE IS TO BE USED FOR ONE TEST ONLY.

SAMPLING AND MEASUREMENT:

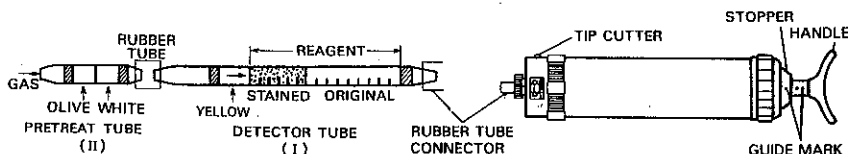


Fig. 1

1. Break both ends of a new detector tube ( I ) and pretreat tube ( II ) by using the tip cutter, and connect each end of the detector tube ( I ) and pretreat tube ( II ) with rubber tube as shown in Fig. 1.  
CAUTION: SAFETY GLASSES AND GLOVES SHOULD BE WORN TO PREVENT INJURY FROM AIRBORNE PIECES OF BROKEN GLASS AND SHARP CUT GLASS EDGES.
2. Align the guide marks (red dots) on the shaft and stopper of the pump. Pull the handle at a full stroke and wait for 1.5 minutes. (In case of using the previous Model 400, turn the handle by 1/4 to lock after pulling it.)
3. Remove the detector tube from rubber tube connector on the completion of sampling. A reading can be obtained directly from the scale printed on the detector tube.
4. When concentrations are below the scale range, 2 pump strokes can be used to determine these lower concentrations, then following formula is available for actual concentration.

$$\text{Actual concentration} = \frac{1}{2} \times \text{Reading value}$$

SPECIAL NOTE:

When the top of stained layer is made obliquely, read the concentration at the centre between the longest and shortest points of the stained layer. The total stain length should be read, even if the stained layer gets multi-colour discolouration.

CORRECTION FOR AMBIENT CONDITIONS:

Temperature;  
No temperature correction is necessary at the temperature of 0°C (32°F) to 40°C (104°F).  
Humidity;  
Up to 90% (30°C=86°F) relative humidity, no need for correction.  
Atmospheric Pressure;  
Tube readings can be corrected by using either the following equation:  
True Concentration = Tube reading × 1013 / (Atmospheric pressure in mbar), or  
True Concentration = Tube reading × 760 / (Atmospheric pressure in mmHg).

INTERFERENCES:

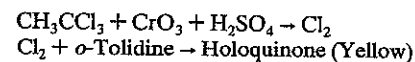
Coexistence of Halogens or Halogenated Hydrocarbons produce a similar stain and give higher readings.

HAZARDOUS PROPERTY OF 1,1,1-TRICHLOROETHANE:

T.L.V.♦: 350 ppm

♦ Threshold Limit Value established by the American Conference of Governmental Industrial Hygienists, 1993.

CHEMICAL REACTION IN THE DETECTOR TUBE:



INSPECTION OF ASPIRATING PUMP:

Before testing, the pump shall be checked for proper performance. Leakage of air will affect accuracy of readings. The leakage check should be done by pulling the handle fully with an unbroken tube into the connector and waiting for 3 minutes. If the handle comes back thoroughly to the original position when the lock is released, the performance is good.

Any pump showing signs of leakage should be immediately removed from use until the leakage is corrected.

CAUTION:

Keep the detector tubes out of the reach of children and used tubes should be discarded carefully according to relevant regulations.

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 400, 400A or AP-1 aspirating pump, and that detector tubes are not used which are either beyond their expiration date or have a colour different than referenced under 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.