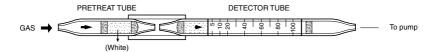
ETHYLENE OXIDE



1. PERFORMANCE

1) Measuring range 5-100 ppmNumber of pump strokes $2(200\text{m}\ell)$

2) Sampling time : 3 minutes/2 pump strokes

3) Detectable limit : 0.5 ppm (200mℓ) 4) Shelf life : 2 years

4) Shelf life : 2 years 5) Operating temperature : $0 \sim 40 \,^{\circ}\text{C}$

6) Temperature compensation : Necessary (See "TEMPERATURE CORRECTION TABLE") 7) Reading : Direct reading from the scale calibrated by 2 pump strokes

8) Colour change : Pink → Yellow

2. RELATIVE STANDARD DEVIATION

RSD-low: 10% RSD-mid.: 5% RSD-high: 5%

3. CHEMICAL REACTION

By decomposing with an Oxidizer, Formic acid is produced and PH indicator is discoloured.

$$CH_2CH_2O + H_2SO_4 \rightarrow HOCH_2CH_2OH$$

 $HOCH_2CH_2OH + HIO_4 \rightarrow 2HCHO + HIO_3 + H_2O$ $HCHO + HIO_4 + H_2SO_4 \rightarrow HCO_2H + HIO_3$

 $HCO_2H + NaOH \rightarrow Na(HCOO) + H_2O$

4. CALIBRATION OF THE TUBE

GAS CHROMATOGRAPHY

5. INTERFERENCE AND CROSS SENSITIVITY

Substance	Interference	Coexistence						
Formaldehyde	Similar stain is produced.	Higher readings are given.						
Propylene	"	"						
Acetone	Yellow stain is produced a little on the gas inlet edge.	Lower readings are given.						
Diethyl ether	Pale orange stain is produced a little on the gas inlet edge.	"						

TEMPERATURE CORRECTION TABLE

Scale	Corrected Concentration (ppm)				
Readings (ppm)	0°C (32°F)	10°C (50°F)	20°C (68°F)	30°C (86°F)	40℃ (104°F)
100	_	125	100	80	70
80	-	100	80	64	56
60	140	75	60	48	42
40	80	50	40	32	28
20	32	25	20	17	14
10	15	12	10	9	7
-	7	6	-	-	4