# **METHYL BROMIDE**



## 1. PERFORMANCE

1) Measuring range : 2-80 ppm 1-25 ppm 0.4-10 ppm Number of pump strokes 1 (100mℓ) 2 (200mℓ) 4 (400mℓ)

2) Sampling time : 1.5 minutes/1 pump stroke

3) Detectable limit :  $0.2 \text{ ppm} (400 \text{m} \ell)$ 

4) Shelf life : 3 years (Necessary to store in refrigerated conditions;  $0 \sim 10 \, ^{\circ}\text{C}$ )

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 1 pump stroke

8) Colour change : White → Yellow

## 2. RELATIVE STANDARD DEVIATION

RSD-low: 15% RSD-mid.: 10% RSD-high: 10%

## 3. CHEMICAL REACTION

By decomposing with an Oxidizer, Bromine is produced. Bromine reacts with *o*-Toluidine and yellow Orthoquinone is produced.

$$CH_3Br + I_2O_5 + CrO_3 + H_2SO_4 \cdot nSO_3 \rightarrow Br_2$$

$$3Br_2H_2N - \bigcirc - \bigcirc - NH_2 \rightarrow BrH_2N = \bigcirc = \bigcirc = NH_2Br$$

$$CH_3 \qquad CH_3$$

## 4. CALIBRATION OF THE TUBE

GAS CHROMATOGRAPHY

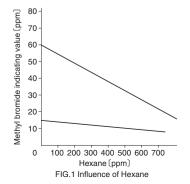
#### 5. INTERFERENCE AND CROSS SENSITIVITY

Substance		Interference	ppm	Coexistence	
Halogen		Similar stain is produced.		Higher readings are given.	
Halogenated hydrocarbons		"		"	
Hexane	FIG.1	The accuracy of readings is not affected.	200	Lower readings are given.	

#### (NOTE)

2 pump strokes can be used with the following formula to measure the range of 1-25 ppm; Actual concentration =  $1/2 \times$  Temperature corrected value

4 pump strokes can be used with the following formula to measure the range of 0.4-10 ppm; Actual concentration =  $1/5 \times$  Temperature corrected value



#### TEMPERATURE CORRECTION TABLE

Γ	Tube	Corrected Concentration (ppm)							
1	Readings (ppm)	0°C (32°F)	5℃ (41°F)	10 °C (50 °F)	20°C (68°F)	30°C (86°F)	40 °C (104 °F)		
Г	80	_	140	98	80	75	73		
Г	60	145	76	67	60	57	56		
Г	40	44	43	42	40	40	40		
	30	30	30	30	30	30	30		