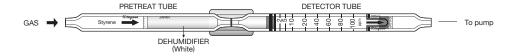
# **STYRENE**



# 1. PERFORMANCE

1) Measuring range 2.100 ppm 1-50 ppm Number of pump strokes 2.200 m 4.400 m 2.200 m 2.2

3) Detectable limit ∴ 0.2 ppm (400mℓ) 4) Shelf life ∴ 3 years

5) Operating temperature :  $0 \sim 40^{\circ}$ C

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

8) Colour change : White → Yellow

# 2. RELATIVE STANDARD DEVIATION

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

# 3. CHEMICAL REACTION

A polymer of Styrene is produced by fume sulphuric acid. C<sub>6</sub>H<sub>5</sub>C<sub>2</sub>H<sub>3</sub> + H<sub>2</sub>SO<sub>4</sub> ⋅ nSO<sub>3</sub> → Yellow compound

# 4. CALIBRATION OF THE TUBE

DIFFUSION TUBE METHOD

## 5. INTERFERENCE AND CROSS SENSITIVITY

Substance	Interference	ppm	Coexistence
Acrylonitrile	The accuracy of readings is not affected.	400	Lower readings are given.
Butadiene	Pale orange stain is produced.	5	Higher readings are given.
Formaldehyde	The accuracy of readings is not affected.	15	"
Acetaldehyde	Orange stain is produced.	350	"
Methyl alcohol	The accuracy of readings is not affected.	3500	"
Ethyl alcohol	"	1800	"
Ethyl acetate	"	700	"
Butyl acetate	"	700	"

#### (NOTE)

In case of 4 pump strokes, following formula is available for actual concentration.

Actual concentration =  $1/2 \times$  Reading value.

## TEMPERATURE CORRECTION TABLE

Temperature: To correct for temperature, multiply the tube reading by the following factors.

Temperature (°C)	0	1	2	3	4	5	6	7	8	9
Correction Factor	0.80	0.81	0.82	0.83	0.84	0.85	0.86	0.87	0.88	0.89
Temperature (°C)	10	11	12	13	14	15	16	17	18	19
Correction Factor	0.90	0.91	0.92	0.93	0.94	0.95	0.96	0.97	0.98	0.99
Temperature (°C)	20	21	22	23	24	25	26	27	28	29
Correction Factor	1.00	1.01	1.02	1.03	1.04	1.05	1.06	1.07	1.08	1.09
Temperature (°C)	30	31	32	33	34	35	36	37	38	39
Correction Factor	1.10	1.11	1.12	1.13	1.14	1.15	1.16	1.17	1.18	1.19
Temperature (°C)	40									
Correction Factor	1.20									