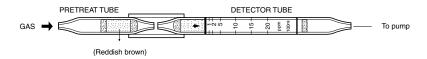
# **ACRYLONITRILE**



# 1. PERFORMANCE

1) Measuring range : 1-20 ppm 0.5-10 ppm 0.25-5 ppm 0.2-4 ppm Number of pump strokes  $1 (100 \text{m} \ell)$   $2 (200 \text{m} \ell)$   $4 (400 \text{m} \ell)$   $5 (500 \text{m} \ell)$ 

2) Sampling time : 1.5 minutes/1 pump stroke

3) Detectable limit : 0.05ppm (500m $\ell)$ 

4) Shelf life : 1 year (Necessary to store in refrigerated place ;  $0 \sim 10 \, ^{\circ}\text{C}$ )

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 : Yellow→Red

## 2. RELATIVE STANDARD DEVIATION

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

# 3. CHEMICAL REACTION

By decomposing with an Oxidizer, Hydrogen cyanide is produced, Hydrogen cyanide reacts with Mercuric chloride, then Hydrogen chloride is liberated and PH indicator is discoloured.

$$CH_2 = CHCN + CrO_3 + H_2SO_4 \rightarrow HCN$$

 $HCN + HgCI_2 {\rightarrow} HCI$ 

## 4. CALIBRATION OF THE TUBE

GAS CHROMATOGRAPHY

## 5. INTERFERENCE AND CROSS SENSITIVITY

Substance	Interference	ppm	ppm Coexistence	
Butadiene		Less than 350 ppm	Not affected.	
Toluene		Less than 600 ppm	"	
Hexane		Less than 800 ppm	"	
Styrene		Less than 720 ppm	"	

### (NOTE)

In case of 2 to 5 pump strokes can be used to determine the lower concentration.

Following formula is available for actual concentration.

 $Actual concentration = Tmperature corrected value \times \frac{1}{Number of strokes}$ 

### TEMPERATURE CORRECTION TABLE

Scale	True Concentration (ppm)						
Readings (ppm)	0°C (32°F)	10°C (50°F)	20°C (68°F)	30°C (86°F)	40°C (104°F)		
20	26	22.5	20	18	17		
18	23	20	18	16.5	15.5		
16	20.5	18	16	15	14		
14	18	15.5	14	13	12		
12	15.5	13.5	12	11	10.5		
10	13	11	10	9.5	9		
8	10.5	9	8	7.5	7		
6	8	7	6	6	5.5		
4	5.5	4.5	4	4	4		
2	3	2	2	2	2		
1	15	1	1	1	1		