# **ARSINE**



### 1. PERFORMANCE

1) Measuring range : 0.1-2.0 ppm 0.05-1.0 ppm Number of pump strokes 1(100mL) 2(200mL) 2) Sampling time : 1 minute / 1 pump stroke 3) Detectable limit : 0.02 ppm (200mL)

4) Shelf life ∴ 2 years 5) Operating temperature ∴ 0~40°C

6) Reading : The tube scales are calibrated based on Phosphine at 1 pump stroke and

the tube has the same sensitivity for Arsine.

7) Colour change : Pale yellow  $\rightarrow$  Pink

### 2. RELATIVE STANDARD DEVIATION

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

### 3. CHEMICAL REACTION

By reacting with Mercury chloride (II), Hydrogen chloride is produced and pH indicator is discoloured.  $AsH_3+HgCl_2\rightarrow As(HgCl)_3+HCl$ 

## 4. CALIBRATION OF THE TUBE

STANDARD GAS CYLINDER METHOD

#### 5. INTERFERENCE AND CROSS SENSITIVITY

Substance	Interference	Coexistence
Hydrogen selenide	Similar stain is produced.	Higher readings are given.
Mercaptans	//	"
Hydrogen sulphide	//	"
Hydrogen cyanide	Whole reagent is changed to Red.	"
Sulphur dioxide	"	Whole reagent is changed to Pale red, but Purplish red stain indicates Arsine concentration.

#### (NOTE)

When the concentration is below 0.1 ppm, 2 pump strokes can be used to determine the lower concentration with the following formula;

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