ARSINE



1. PERFORMANCE

1) Measuring range Number of pump strokes 2) Sampling time 3) Detectable limit $\begin{array}{c} : \ 0.1\text{-}2.0 \text{ ppm} \\ 1\ (100\text{m}\,\ell) \\ : \ 1 \text{ minute/1 pump stroke} \\ : \ 0.02 \text{ ppm}\ (200\text{m}\,\ell) \\ \end{array}$

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

6) Reading : The tube scale is calibrated based on Phosphine at 1 pump stroke and the tube

has the same sensitivity for Arsine.

7) Colour change : Pale yellow→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. $AsH_3 + HgCI_2 \rightarrow As(HgCI)_3 + HCI$

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 0.5 ppm, 2 pump strokes can be used to determine the lower concentration with the following formula;

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