



RAE Systems, Inc.  
1339 Moffett Park Dr.  
Sunnyvale, CA 94089 USA

Telephone 408-752-0723  
Tube Orders 1-888-723-8823  
Web www.raesystems.com

# Gas Detection Tube Data Sheet

## Phosphine PH<sub>3</sub> No. 10-116-25

	Extended Range	Standard Range	Extended Range
Range (ppmv)	25 - 500	50 - 1000	100 - 2000
No. of Pump Strokes	2	1	0.5
Sample Volume (mL)	200	100	50
Sample Time (min)	2 x 1.5	1.5	1
Correction Factor	0.5	1	2

Precision (Relative Standard Deviation)\*:  $\leq \pm 10\%$

Linearity with No. of Pump Strokes:  $r^2 = 1.000$

Humidity: No effect 5 - 80% RH.

Temperature Range:

0 - 40°C  
(32 - 104°F)

Temp (°C/°F)	0/32	10/50	25/75	40/104
Corr. Factor	0.8	0.9	1.0	1.05

Storage Life: 1 year in darkness at 5 - 25°C (40 - 77°F). Refrigeration preferred.

Color Change: White → Yellow

Reaction Principle:  $2\text{PH}_3 + 6\text{HgCl}_2 + 3\text{H}_2\text{O} \rightarrow \text{Hg}_3\text{P}_2 \cdot 3\text{HgCl}_2 \cdot 3\text{H}_2\text{O} + 6\text{HCl}$

Cross-sensitivity: Substance	Concentration (ppmv)	Apparent Reading*
H <sub>2</sub> S	200	140 †
SO <sub>2</sub>	3940	0
NO	100	0
NH <sub>3</sub>	100	0
CO	250	0
CO <sub>2</sub>	50000	0
CH <sub>4</sub>	25000	0
Hexane	1500	0
Toluene	100	0

\*Data based on RAE pumps and tubes used in standard range.

† Interferes in mixtures; may result in transient light brown H<sub>2</sub>S response.

Other Possible Interferences: Strongly reducing gases.

Caution: Dispose of spent or expired tubes according to local regulations.  
Possibly hazardous materials are given under the section Reaction Principle.