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Gas Detection Tube Data Sheet

Ammonia NH₃ No. 10-100-05

| | Extended Range | Standard Range | Extended Range |
|---------------------|----------------|----------------|----------------|
| Range (ppmv) | 0.5 - 15 | 1 - 30 | 2 - 60 |
| 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 | 0.55 | 1 | 2.4 |

Precision (Relative Standard Deviation)*: $\leq \pm 12\%$

Linearity with No. of Pump Strokes: $r^2 = 0.999$

Humidity: The tubes are calibrated at 50% RH. @ 24 °C (75 °F)

| % RH | < 5% | 10% | 50% | 80% | 95% |
|--------------|------|------|-----|-----|-----|
| Corr. Factor | 0.8 | 0.85 | 1.0 | 1.0 | 1.0 |

Temperature Range: 0 - 40°C
@ 50%RH (32 - 104°F)

| Temp (°C/°F) | 0/32 | 10/50 | 25/77 | 35/95 |
|--------------|------|-------|-------|-------|
| Corr. Factor | 0.9 | 0.95 | 1.0 | 1.1 |

Storage Life: 2 years in darkness at 3 - 10°C (37 - 50°F). Refrigeration required.

Color Change: Purple → Beige

Reaction Principle: $3\text{NH}_3 + \text{H}_3\text{PO}_4 \rightarrow (\text{NH}_4)_3\text{PO}_4$

| <u>Cross-sensitivity:</u> Substance | Concentration (ppmv) | Apparent Reading* |
|--|----------------------|-------------------|
| Pyridine | 10 | 15 |
| Diethylamine | 20 | 18 |
| Hydrazine | 20 | 2** |
| Methylhydrazine | 20 | 2.3** |
| CO | 100 | 0 |
| CO ₂ | 20000 | 0# |
| H ₂ S | 200 | 0 |
| Hexane | 100 | 0 |
| Isobutylene | 100 | 0 |
| Toluene | 100 | 0 |

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

** These hydrazines can be measured using 2 strokes with a CF of 5.

16000 ppm CO₂ reduces the NH₃ response by 30% in mixtures, 5000 ppm CO₂ reduces NH₃ response by 10% in mixtures, and 1000 ppm CO₂ has no effect.

Other Possible Interferences: Amines and other bases.

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