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Gas Detection Tube Data Sheet

Hydrogen Fluoride HF No. 10-105-10

| | Extended Range | Standard Range | Extended Range |
|---------------------|----------------|----------------|----------------|
| Range (ppmv) | 0.25 - 10 | 0.5 - 20 | 1 - 40 |
| No. of Pump Strokes | 8 | 4 | 2 |
| Sample Volume (mL) | 800 | 400 | 200 |
| Sample Time (min) | 8 x 0.5 | 4 x 0.5 | 2 x 0.5 |
| Correction Factor | 0.4 | 1 | 1.6 |

Precision (Relative Standard Deviation)*: $\leq \pm 20\%$

Linearity with No. of Pump Strokes: $r^2 = 0.98$

Humidity: Calibrated at 50% RH and 23°C (73°F).

| % Relative Humidity | 30% | 40% | 50% | 60% | 70% | 80% | 90% |
|---------------------|-----|-----|-----|-----|-----|-----|-----|
| Correction Factor | 0.3 | 0.4 | 1.0 | 1.3 | 1.6 | 2.0 | 2.6 |

Temperature Range: No effect 10 - 30°C (50 - 86°F) at constant 41% RH.

Storage Life and Conditions: 2 years in darkness at 5 - 25°C (40 - 77°F)

Color Change: Beige → Purple

Reaction Principle: $\text{HF} + \text{NaOH} \rightarrow \text{NaF} + \text{H}_2\text{O}$

| <u>Cross-sensitivity:</u> Substance | Concentration (ppmv) | Apparent Reading* |
|--|-------------------------|--------------------------|
| CO | 250 | 0 |
| CO ₂ | 50000 | 0 |
| NH ₃ | 300 | 0 [^] |
| NO | 100 | 0 |
| H ₂ S | 800 | 0 |
| SO ₂ | 200 | 0 |
| CH ₄ | 25000 | 0 |
| HCl | 4 | entire tube [#] |
| Cl ₂ | 15 | entire tube [#] |

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

[#] Pink color over entire tube length. [^] May interfere in mixtures.

Other Possible Interferences: Other acid vapors; amines and other bases. No effect of 100 ppm toluene or 2400 ppm hexane.

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