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# Gas Detection Tube Data Sheet

## Carbon Dioxide CO<sub>2</sub> No. 10-104-50

|                     | Extended Range | Extended Range | Standard Range |
|---------------------|----------------|----------------|----------------|
| Range (ppmv)        | 0.25 - 5%      | 0.5 - 10%      | 1 - 20%        |
| 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   | 0.25           | 0.5            | 1              |

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

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

Humidity: No effect 5 - 100% RH

Temperature Range: No effect 0 - 40°C (32 - 104°F)

Storage Life: 2 years in darkness at 5 - 25°C (40 - 77°F). Refrigeration preferred.

Color Change: White → Purple

Reaction Principle:  $\text{CO}_2 + \text{H}_2\text{NNH}_2 \rightarrow \text{H}_2\text{NNHCO}_2\text{H}$  (pH indicator change)

| <u>Cross-sensitivity:</u><br>Substance | Concentration<br>(ppmv) | Apparent<br>Reading* |
|--|-------------------------|----------------------|
| CO                                     | 3000                    | 0                    |
| SO <sub>2</sub>                        | 200                     | 0                    |
| NO                                     | 100                     | 0                    |
| NH <sub>3</sub>                        | 300                     | 0                    |
| CH <sub>4</sub>                        | 25000                   | 0                    |
| H <sub>2</sub> S                       | 100                     | 0                    |
| Hexane                                 | 1200                    | 0                    |
| Isobutylene                            | 100                     | 0                    |
| Toluene                                | 100                     | 0                    |

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

Other Possible Interferences: Acid gases

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