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# Gas Detection Tube Data Sheet

## Carbon Monoxide CO No. 10-102-20

|                     | Extended Range | Standard Range | Extended Range |
|---------------------|----------------|----------------|----------------|
| Range (ppmv)        | 2.5 - 50       | 5 - 100        | 10 - 200       |
| No. of Pump Strokes | 2              | 1              | 0.5            |
| Sample Volume (mL)  | 200            | 100            | 50             |
| Sample Time (min)   | 2 x 2          | 2              | 1.5            |
| Correction Factor   | 0.5            | 1              | 2              |

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

Linearity with No. of Pump Strokes:  $r^2 > 0.99$

Humidity: No effect 5 - 100% RH.

Temperature Range: 0 - 40°C  
(32 - 104°F)

| Temp (°C/°F) | 0/32 | 10/50 | 25/77 | 40/104 |
|--------------|------|-------|-------|--------|
| Corr. Factor | 0.80 | 0.83  | 1.0   | 1.15   |

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

Color Change: White → Light Brown Ring

Reaction Principle:  $5CO + I_2O_5 + H_2S_2O_7 \rightarrow I_2 + CO_2 + \text{sulfur products}$

| Cross-sensitivity: Substance | Concentration (ppmv) | Apparent Reading*         | Interferes in Mixture |
|------------------------------|----------------------|---------------------------|-----------------------|
| H <sub>2</sub>               | 100%                 | 0                         | no                    |
| NO                           | 100                  | 40                        | no data               |
| H <sub>2</sub> S             | 25                   | 7                         | additive              |
| NH <sub>3</sub>              | 300                  | 0                         | no data               |
| CH <sub>4</sub>              | 25000                | 0                         | no                    |
| Hexane                       | 100                  | entire tube #             | no data               |
| Isobutylene                  | 100                  | 5                         | no data               |
| Toluene                      | 100                  | 5 (d. purple)             | no data               |
| Trichloroethylene            | 25                   | ~120 (faint) <sup>∞</sup> | no data               |

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

#Faint brown color over entire tube length. <sup>∞</sup>Measures 0.5-5 ppm Trichloroethylene using 2 strokes with a correction factor of 0.1, but the stain is very faint.

Other Possible Interferences: Hydrocarbons and similar reducing gases. Most hydrocarbon interferences can be eliminated using a pretreatment tube. Can be used to measure CO in pure hydrogen.

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