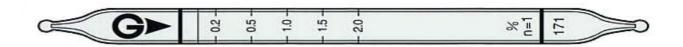
Acetylene HC≡CH No.171



## **Performance**

| Measuring Range                             | 0.05 to 0.1%   | 0.1 to 2.0% | 2.0 to 4.0% |  |
|---|--|-------------|-------------|--|
| Number of Pump Strokes                      | 2  | 1           | 1/2         |  |
| Correction Factor                           | 1/2  | 1           | 2           |  |
| Sampling Time                               | 2 minutes per pump stroke  |             |             |  |
| Detecting Limit                             | 0.02 % (n=2)   |             |             |  |
| Colour Change                               | White ─► Brown   |             |             |  |
| Reaction Principle                          | Acetylene reduces iodine pentoxide to liberate iodine, which produces a brown in colour.  HC: CH + I <sub>2</sub> O <sub>5</sub> + H <sub>2</sub> S <sub>2</sub> O <sub>7</sub> → I <sub>2</sub> |             |             |  |
| Coefficient of Variation                    | 15% (for 0.1 to 0.5 %), 10% (for 0.5 to 2 %)   |             |             |  |
| Shelf Life                                  | 3 Years  |             |             |  |
| Corrections for temperature & humidity      | Temperature correction is necessary  |             |             |  |
| Store the tubes in the cool and dark place. |  |             |             |  |

## Possible coexisting substances and their interferences

| Substance                                | Concentration | Interference | Change colour by itself  |
|--|---------------|--------------|--------------------------|
| Carbon monoxide                          | <u>≥</u> 0.1% | Plus error   | Produce dark brown stain |
| Ethylene                                 | <u>≥</u> 0.5% | Plus error   | Produce dark brown stain |
| Hydrocarbons ( <u>≥</u> C <sub>3</sub> ) | -             | Plus error   | Produce dark brown stain |

## Other substance measurable with this detector tube

| Substance             | Correction Factor | Pump Strokes | Measuring Range |
|-----------------------|-------------------|--------------|-----------------|
| Benzene               | 0.3               | 4            | 0.03 to 0.6%    |
| Ethylene              | 1.0               | 1            | 0.1 to 2%       |
| 1,1,1-Trichloroethane | 0.6               | 1            | 0.06 to 1.2%    |

## Calibration gas generation High pressure gas cylinder method

| TLV-TWA | TLV-STEL | Explosive range |
|---------|----------|-----------------|
| -       | -        | 2.5 to 81%      |