

Uniphos Detector Tube Data Sheet

Direct Reading Length of Stain Type

Mercaptan

R-SH

SEM-4M

TWA (TLV): 0.5 ppm

STEL (TLV): NA

Flammable Range: 3-18%

Specification:

| Measurement Range | Extended | Standard | Extended |
|---------------------------------|---|--------------|---------------|
| | 12.5 - 250 ppm | 25 - 500 ppm | Do not extend |
| No. of Pump Strokes | 2 (200 mL) | 1 (100 mL) | |
| Volume Correction Factor (VCF)* | 0.5 | 1.0 | |
| Sampling Time | 1.5 minutes per pump stroke (100 mL) | | |
| Color Change | Yellow → Red | | |
| Shelf Life | 1 year | | |
| Storage condition | Below 10°C (50°F) | | |
| Calibration condition | Calibrated with Ethyl Mercaptan at 20°C (68°F) and 50% RH. | | |
| Reaction Principle | $C_2H_5SH + HgCl_2 \rightarrow C_2H_5S.HgCl + HCl$ $HCl + Base \rightarrow Chloride$ | | |
| Relative standard deviation | ± 10 % | | |

* Multiply the observed reading by the correction factor (VCF) to obtain the true concentration.

Possible Interferences:

| Compound | Concentration (ppm) | Interference | Colour change / Comments |
|------------------|---------------------|--------------|--------------------------|
| Other Mercaptans | | + | Yellow to Pink |
| PH ₃ | | + | Yellow to Pink |
| H ₂ S | | + | Yellow to Pink |
| Arsine | | + | Yellow to Pink |
| HCN | | + | Yellow to Pink |
| CO ₂ | 10% | No | No effect |
| NH ₃ | 100 | No | No effect |
| SO ₂ | 30 | No | No effect |

Other measurable compounds:

| Compound | Correction Factor | No. of pump strokes | Measuring range |
|-------------------|-------------------|---------------------|-----------------|
| Methyl Mercaptan | 1 | 1 | 25 - 500 ppm |
| t-Butyl Mercaptan | 1 | 1 | 25 - 500 ppm |

Correction for Environmental Parameters:

| | |
|-------------------|--|
| Temperature | Not necessary between 0 - 40°C (32 - 104°F). |
| Relative humidity | Not necessary between 10 - 90 %. |

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