

# Uniphos Detector Tube Instruction Sheet

Direct Reading Length of Stain Type

## Acrylonitrile $\text{CH}_2=\text{CHCN}$

## SAN-4L

TWA (TLV): 2 ppm

STEL (TLV): NA

Flammable Range: 3 – 17 %

### MOST IMPORTANT:

Before using this product, carefully read this instruction sheet and strictly follow the recommended instructions.

### SPECIFICATION:

| Measurement Range               | Extended                              | Standard    | Extended      |
|---------------------------------|---------------------------------------|-------------|---------------|
|                                 | Do not extend                         | 5 - 120 ppm | Do not extend |
| No. of Pump Strokes             | 2 (200 mL)                            |             |               |
| Volume Correction Factor (VCF)* | 1.0                                   |             |               |
| Sampling Time                   | 2.0 minutes per pump stroke (100 mL)  |             |               |
| Color Change                    | Yellow → Red                          |             |               |
| Shelf Life                      | 1 year                                |             |               |
| Storage condition               | Below 10°C (50°F)                     |             |               |
| Calibration condition           | Calibrated at 20°C (68°F) and 50% RH. |             |               |
| Active Reagent(s)               | Chromium trioxide, Mercuric chloride  |             |               |

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

### NOTES:


1. The sampling pump and detector tube together form a measuring system.
2. Uniphos tubes when used with pump of other manufacturers can result in considerable error in the reading and should be avoided.
3. Before each day's use, check the pump for leaks and use it only if it is free from leak.

### HOW TO CHECK THE PUMP FOR LEAK:

Insert an unopened tube into the pump inlet and pull a stroke. After 3 minutes unlock the handle and release it slowly holding the handle and the cylinder securely, so that the **piston does not fly back violently**. If the handle returns to the 0 red line, the pump is leak free and fit for use.

### MEASUREMENT PROCEDURE:



1. Break both ends of a measurement tube and a pre-tube using the tube tip breaker on the sampling pump.
2. Connect the two tubes using the rubber tubing connector. The  marks on each tube indicate the ends that should be inserted into the connector.
3. Insert the open end of the measurement tube securely into the sampling pump inlet, ensuring that the arrow mark on the tube points towards the pump.

4. Rotate the piston shaft until the red dot on it aligns with the red dot on the pump body.
5. Insert the open end of the pre-tube into the gas to be sampled and pull the handle 0.5 or 1 stroke until it locks in place, and wait for the sampling time indicated. The end-of-flow indicator (Vac. Test) near the inlet of the pump also shows when sampling is complete. For a second stroke, rotate the handle 90°, push it back to the 0 mark without removing the detector tube, and pull the piston handle for another full stroke. Repeat for additional strokes.
6. Remove the tube from the pump and read the concentration directly on the tube scale. If tailing occurs read at the midpoint of the taper. It is advisable to take the reading within a few minutes of sampling. If necessary mark the end of stain if it is to be read later.
7. Check for possible cross-sensitivities.

### CORRECTION FOR TEMPERATURE AND HUMIDITY:

**Temperature** - Not necessary between 0 - 40°C (32 - 104°F).

**Relative humidity** - Not necessary between 10 - 90 %.

### POSSIBLE INTERFERENCES:

| Compound | Concentration (ppm) | Interference | Colour change / Comments |
|----------|---------------------|--------------|--------------------------|
| HCl      | 40                  | No           | No Effect                |
| Methanol | 200                 | No           | No Effect                |
| Acetone  | 1000                | No           | No Effect                |
| HCN      | 55                  | +            | Yellow – Red             |

### CAUTION:

1. The process of breaking the tube ends can generate flying glass bits and leave the tube with sharp edges. Use eye and hand protection while breaking the tube ends.
2. Keep tubes out of reach of unauthorized persons, especially children.
3. Dispose off used tubes according to local regulations.

### IMPORTANT:

As we are continuously working on the improvement of products, we reserve the right to change the specifications without any prior notice.

### USER RESPONSIBILITY:

It is entirely the responsibility of the user of the equipment (detector tube with pump) to see that the equipment is operated, maintained and repaired in strict accordance with the manufacturer's instructions provided with the equipment. It is also the sole responsibility of the user to ensure that the tubes are not used beyond their expiration date. The manufacturer and manufacturer's distributors are not otherwise liable for any incorrect measurement and its consequences or any damages resulting from user's negligence or otherwise.

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