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# 3M Personal Air Monitoring Systems

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## 3M PERSONAL AIR MONITORING SYSTEMS

### THE NEED

Many construction operations such as painting, spraying, and structure reinforcing with chemical compound, etc. may make construction workers exposed to contaminated air environments. In the cases of maintenance operations of gas, oil, chemical, or many manufacturing facilities, the possibility that construction engineers and workers are exposed to chemically polluted air is increased.

### THE TECHNOLOGY

3M monitors are made to allow sample desorption directly in the monitor itself. The monitor comes with a snap-on elution cap that permits the desorbing solvent to be injected into the monitor (see Figure1).

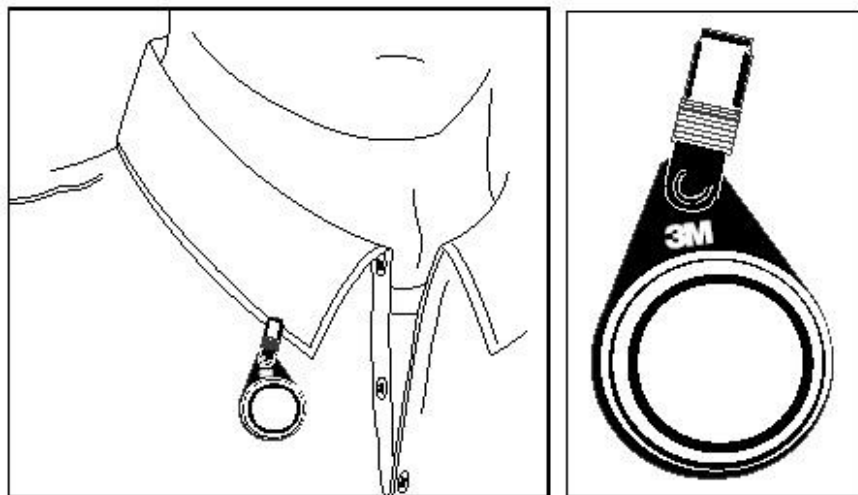


FIGURE 1 3M 3500 ORGANIC VAPOR MONITOR - SHOWN IN USE AND CLOSE-UP

The solution is then poured into sample vials for analysis. 3M monitors use standard analytical methods: gas chromatography for the organic vapor monitor and ethylene oxide monitor, and colorimetry for the formaldehyde monitor.

### THE BENEFITS

- Simple and Convenient.
- No batteries, hoses or pumps to operate.



- Easy to use. Just clip the monitor to shirt lapel, collar, or pocket.
  - Versatile. 3M monitors can also be used for area monitoring, if sufficient air flow exists.
  - 3M provides reference information needed to use the monitors.
  - Analysis options. 3M monitors can be analyzed in the lab of your choice or returned for analysis.
  - Confidence. 3M's manufacturing operation is ISO 9002 certified and our testing facilities are accredited by the American Industrial Hygiene Association.
- Comfort. 3M monitors are small and lightweight and will not interfere with employee activities

## STATUS

3M diffusion monitors can be purchased with prepaid analysis by an AIHA accredited laboratory. Other AIHA accredited laboratories are listed in the AIHA Journal or can be located by calling 3M OH&ESD Technical Service. Prepaid 3M analysis is available for:

- Organic Vapor Monitor
- Formaldehyde Monitor
- Ethylene Oxide Monitor

The Organic Vapor Monitors are used to sample many organic solvents used in manufacturing, painting, and chemical plants. The Formaldehyde Monitors are often used in health care, laboratories and in the chemical, pulp/paper, foundry and textile industries. The Ethylene Oxide Monitor is used in the pharmaceutical, health care and chemical industries.

## BARRIERS

Because of adverse or inadequate interactions with solvent material, 3M monitors are not recommended for sampling ammonia, carbon monoxide, hydrogen sulfide, isocyanates, methane, ethane, propane, methyl alcohol, methyl chloride, methyl amines, dimethyl amines, trimethyl amines, sulfur dioxide or solid materials.

These products are only for sampling certain gases and vapors; they are not for sampling particles. Applying these products in construction industries may be limited to some specific projects or processes; paint work using specific chemical components, maintenance or construction work in chemical plants or facilities where workers can be exposed to harmful gases and vapors, etc.



## **POINTS OF CONTACT**

**3M Occupational Health and Environmental Safety Division 3M Center,**

Phone: (800) 243-4630 Email: [occsafety@3m.com](mailto:occsafety@3m.com)

## **REFERENCES**

1. 3M Website: [http://solutions.3m.com/wps/portal/3M/en\\_GB/Products/ProdServ/Dir/Safety-Security/](http://solutions.3m.com/wps/portal/3M/en_GB/Products/ProdServ/Dir/Safety-Security/)

## **REVIEWERS**

Peer reviewed as an emerging construction technology

## **DISCLAIMER**

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## **PUBLISHER**

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