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Indoor Air Formaldehyde Sampler

- **Analysis utilizes NIOSH 3500**
- **Inexpensive**
- **Small and unobtrusive**
  - Less than 4 inches (10 cm) long
- **Convenient passive sampling**
  - No pumps or calibration needed
- **Easy to use**
  - No technical training required
- **Accurately measures low formaldehyde levels**
- **No known interferences from other substances**
- **Designed for long term measurement — 5 to 7 days**
- **Suitable for testing indoor air in home, office, or industrial environment**
- **Validation based upon NIOSH Method 3500**
- **Detection limit: 0.01 ppm (± 30%), 0.02 ppm (± 15%)**

Formaldehyde Sampling in Indoor Air

The Indoor Air Formaldehyde Passive Sampler is the only device specifically designed for accurate indoor measurements of low formaldehyde levels in the home, office, or industrial environment over a 5 to 7-day period. The sampler is inexpensive, accurate, and field validated by the Indoor Air Quality Program, Lawrence Berkeley Laboratories at the University of California, Berkeley. The sampler is the first of its kind requiring no special equipment or trained personnel for sampling.

The sampler is based on a simple yet accurate process. Inside the vial is a disk of chemically impregnated paper. No liquid reagents are necessary for sampling. Formaldehyde combines with the reactive media on the disk (sodium hydrogen sulfite) and forms the stable compound sodium formaldehyde bisulfite. The sampler is then sent to an AIHA-accredited laboratory for chromotropic acid assay (CTA) analysis.

There are no known interferences to the sampler. Formaldehyde may be accurately measured in the presence of other substances such as phenol, aldehydes, and aromatic hydrocarbons. The shelf life of an unopened sampler is one year.

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Indoor Air Formaldehyde Sampler

What Does the Risk of Formaldehyde Exposure Mean?

Formaldehyde is commonly used in pressed-wood products such as particleboard, interior-grade plywood, and fiberboard. It is also a major ingredient in urea-formaldehyde foam insulation, adhesives, dyes, inks, medicines, and embalming fluids. Formaldehyde can be released into the indoor air and, over time, may accumulate to problem levels causing mild to severe health disorders in sensitive individuals.

Symptoms of formaldehyde exposure include: irritation of the eyes, ears, and throat; excessive thirst; headache; sneezing; shortness of breath; dermatitis; and excessive phlegm. Formaldehyde is an allergen and susceptible persons may become sensitized. Formaldehyde has also demonstrated mutagenic properties in a variety of test systems and can react with hydrogen chloride to form bis-chloromethyl ether (BCME), a potent animal carcinogen. NIOSH recommends that formaldehyde be handled as a potential occupational carcinogen. The International Agency for Cancer (IARC) has classified formaldehyde as carcinogenic. There is sufficient evidence that it causes nasopharyngeal cancer in humans.

Reference:

Geisling, K.L. and S.M. Rappaport, "A Passive Sampling Device for Determining Formaldehyde in Indoor Air," Environmental International, Vol 8, pp 153-158, 1982

Sexton, Ken, Kai-Shen Liu, and Myrto X. Petreas, "Formaldehyde Concentrations Inside Private Residences: A Mail-Out Approach to Indoor Air Monitoring." Journal of the Air Pollution Control Association, Vol 36, No 6, pp 698-704, 1986

Performance Profile

Sampling time:	5 to 7 days
Detection limit:	0.01 ppm ± 30%, 0.02 ± 15%
Interferences:	None known
Shelf life:	One year
Size:	3.8 in (9.7 cm) long
Accuracy:	0.025 to 1.0 ppm ± 15%

No Technical Training Required

How to Use

1. Decide where to hang the samplers. For buildings with a large indoor area or with more than one floor, use more than one sampler.

2. Record the location, start date, and start time on the identification label(s) and place on sampler(s).

3. Uncap the unit and attach the cap to the opposite end of the vial.

4. Hang the sampler from the mounting surface (door jamb or ceiling) by pushing the mounting pin through the ribbon and into the mounting surface. The sampler must be at least 24 inches away from any wall and away from outside doors and windows.

5. Allow the sampler to hang undisturbed for 5 to 7 days.

6. Cap the sampler and record finish time and date on the identification label.

7. Mail the sampler to an accredited laboratory for analysis using the chromotropic acid assay method.

Description	Cat. No.
Indoor Area Formaldehyde Sampler includes 2 samplers, 2 mounting pins, and 2 identification labels.	**526-100*†**

** Limited shelf-life*

*† **Note:** If sampling in an atmosphere containing formalin, see www.skcinc.com/instructions/1795.pdf, Reference 2.*

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