

# 3M™ Ethylene Oxide Diffusion Monitor 3550/3551



## Overview/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.
- Analysis options. 3M monitors can be analyzed in the lab of your choice or returned to a 3M contracted lab for analysis.
- Confidence. 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.

The 3M™ Diffusion Monitor is a sampling device designed to measure average concentrations of certain contaminants over a measured time interval. It can be used for either personal or area monitoring. As a personal monitor, it is worn near the breathing zone of individuals exposed to potentially hazardous environments. When used as an area monitor, hang it away from walls, corners, table tops, or other regions where the air movement in the room may be limited.

## Product Information

3550 and 3551 ethylene oxide diffusion monitors contain a single treated charcoal adsorbent pad. The 3550/3551 must be analyzed within 4 weeks after sampling. The 3550 includes a prepaid analysis (NOT sold in Canada). The 3551 monitor is designed to be analyzed by the user or by an independent laboratory.

3M Monitor prepaid analysis services will be provided by an American Industrial Hygiene Association (AIHA®) Accredited Laboratory. Confidentiality of customer analysis results will be maintained. A written report will be quickly returned to document the results of the analysis.

Meets current OSHA accuracy requirements for 8-hour sampling which are +/- 25% at 1.0 ppm, +/- 35% at 0.5 ppm. Also meets accuracy requirements for short-term exposure limit (STEL) sampling of +/- 35% at 5.0 ppm.

Store in an area free of organic vapors and/or ethylene oxide.

**Shelf life is 18 months from date of manufacture. Expiration date is printed on packaging in a MM\_YY format.**

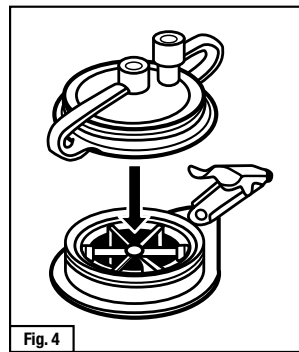
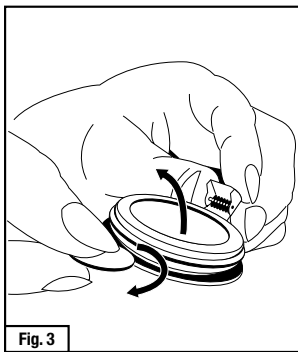
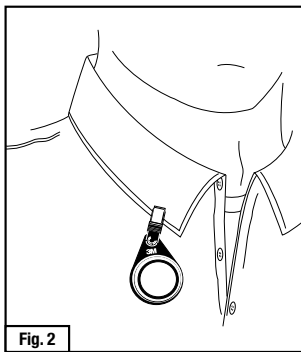
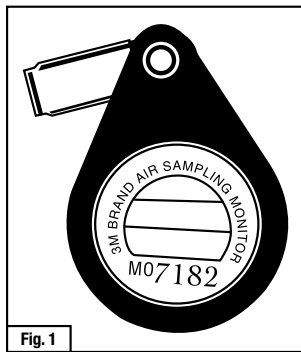
Sampling times should be selected for comparison with appropriate exposure limits. For more information regarding sampling times, contact PSD Technical Service at 1-800-243-4630.

For more information, please call 3M Technical Service at 1-800-243-4630 or see the User Instructions.

## Assembly Instructions

Remove the plastic lid from the can. Open can by grasping the ring tab and pulling up. Examine the contents carefully to make sure all of the parts listed below are included.

1. Pour spout (short plastic straw).
2. Elution cap (clear plastic with plugs).
3. Monitor (maroon with metal clip).



## Sampling Instructions

1. Remove the diffusion monitor from the can.
2. Before monitoring, record the following information in your data log and on the enclosed form:
  - 1) monitor serial number,
  - 2) sampling date,
  - 3) employee or area ID,
  - 4) temperature and relative humidity,
  - 5) compounds to be analyzed.
3. Record the date, employee or area ID and sampling start time on the monitor label (Fig. 1).  
**DO NOT REMOVE WHITE FILM AND PLASTIC RING.**
4. Monitor can be used as an area or personal sampler. For personal sampler attach the monitor near employee breathing zone (Fig. 2). When used as an area monitor, hang it away from walls, corners, table tops, or other regions where the air movement in the room may be limited.
5. After sampling period is ended, remove plastic ring and white film from the monitor (Fig. 3).  
**MOVE TO STEP 6 IMMEDIATELY.**
6. Snap elution cap (with plugs) onto main monitor body (Fig. 4). Be sure the two port plugs are secured. Record final sampling time on the back of monitor. Monitor is now ready for shipment.
7. Return monitor and short plastic straw to can and close with plastic lid provided.
8. **3551:** Monitors do not include prepaid analysis; therefore, **DO NOT RETURN TO 3M FOR ANALYSIS**. Please see [www.aiha.org](http://www.aiha.org) for a list of AIHA® accredited laboratories. A detailed analysis procedure is available from 3M.  
**3550:** Send monitor plus completed analysis request form to:

EMSL Analytical, Inc.  
3410 Winnetka Avenue North  
Minneapolis, MN 55427

Good industrial hygiene practice indicates that a blank monitor be included with each set of samples to check for any contamination of the samples. The blank is a monitor which has been handled in the same manner as the sample monitors, but has not been exposed to the atmosphere in the area being monitored.

## Reading the Report

The "Concentration" Column (circled) is where you will find the average concentration based upon the amount found by the lab and the time that you reported. This average may be converted to an 8-hour time weighted average if you wish to compare it against an 8-hour exposure limit.

### Scenario 1:

Sample was for 6 hours and worker was not exposed to contaminants for the remaining 2 hours. The 8-hour TWA may be determined using the following equation:

$(\text{Report Concentration} \times 6 \text{ hours}) / 8 \text{ hours}$


### Scenario 2:

Sample was for 6 hours, but worker has the same exposure for the remaining 2 hours. Since the exposure in the remaining 2 hours is the same, the report concentration will be the same as the 8-hour TWA.

Your returned Monitor Analysis Report will look like this:




**Diffusional Monitor  
Analysis Report**



Analytical Service  
3M Personal Safety Division  
Telephone: 800-243-4630

EMSL Analytical, Inc.  
1820 Elm St. SE  
Minneapolis, MN 55414



Report Number: \_\_\_\_\_ Page 1 of 1

No. of Monitor: 2 Test Method Used: 3M OVM Monitor

Analysis Performed: \_\_\_\_\_ Date Report Date: \_\_\_\_\_ Date

Analyzed By: \_\_\_\_\_ Analyst Name

*[Signature]*

Project Manager  
\* 3M Analytical Services provided by  
EMSL Analytical, Inc.  
(OHA-149 Lab ID 181010)

Client: Company Name  
Client Contact  
Address  
City, State Zip

User Identification	Monitor Code	Sampling Date	Sampling Time	Weight Micrograms	Concentration		Footnote:	
					Compound(s)	mg/m <sup>3</sup>		PPM
Monitor 1	MC9261	11/2/16	61.5 min.					
				Ethyl Benzene	178	10.2	2.36	pp2, 1b
				Methyl Ethyl Ketone	<3.00	<0.146	<0.0494	pp2
				Toluene	2250	114	30.2	pp2
Monitor 2	MC9485	11/2/16	370 min.					
				Acetone	272	21.8	9.18	pp2, 1b
				Cyclohexanone	<2.99	<0.311	<0.0774	pp2
				n-Butyl Acetate	332	27.6	5.82	pp2

The samples associated with this report were received in good condition unless otherwise noted. This report relates only to those items tested as received by the laboratory. The QC data associated with the sample results meet the recovery and precision requirements established by the laboratory, unless specifically indicated. The final results are not field blank corrected, unless otherwise noted. The laboratory is not responsible for final results calculated using sampling times that have been provided by non-laboratory personnel. This report may not be reproduced except in full and without written approval by EMSL Analytical, Inc.

Footnote:  
 1b This analyte not detected at or above the reported limit.  
 pp2 The sample was authorized for analysis past the method specified holding time.  
 1b Unidentified compounds are present in the sample.

3M warrants only the accuracy of the sampling analytical methods and the data obtained thereby. 3M disclaims responsibility for any comparisons of test data to any existing or future health and safety standards as to whether such standards are or are not adequate to insure the safety of persons or property.

**Important Notice to User**

The following warranty is made in lieu of all other warranties express or implied, including but not limited to the implied warranties of merchantability and fitness for purpose. 3M Personal Safety Division (3M PSD) products sold will meet the physical standards and properties set forth in the applicable product specification databases issued by 3M. 3M's only obligation under this warranty shall be to replace such quantity of 3M PSD products proved to be defectively manufactured by failing to meet the aforementioned specification data shown, and to be responsible for any third party personal injuries directly caused by said defects. Except as provided above 3M shall not be liable or responsible for any loss, damage, or liability, direct, indirect, incidental, special or consequential, arising out of the sale, use or misuse, or the inability to use products by the user.

Report: RPT 01.04

Please review the user instructions packaged with the product or contact 3M Technical Service at 1-800-243-4630 if you have any questions or require additional information.

### WARNING

#### Do Not Use For:

- Organic Vapors\*, Ammonia, Carbon Monoxide; Formaldehyde#; Hydrogen Sulfide; Isocyanates: Methane; Ethane; Propane; Methyl Alcohol (Methanol); Methyl Chloride; Methyl, Dimethyl, Trimethyl Amines; Organic Solids; Sulfur Dioxide
- Reactive or polar compounds such as amines, phenols, aldehydes, and low molecular weight alcohols
- Extremely low concentrations within a sampling period of less than 8 hours

\*Certain organic vapors can be monitored using 3M™ Organic Vapor Monitors 3500/3510/3520/3530.

#Formaldehyde can be monitored using 3M™ Formaldehyde Monitor 3720/3721.

For product use instructions and limitations, see User Instructions Guide.



**Personal Safety Division**  
3M Center, Building 0235-2W-70  
St. Paul, MN 55144-1000

#### For more information: In U.S.

Technical Assistance 1-800-243-4630  
Customer Care Center 1-800-328-1667  
3M.com/WorkerSafety

#### In Canada

Technical Assistance 1-800-267-4414  
Customer Care 1-800-364-3577  
3M.ca/Safety

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