



Using Assay Technology Diffusive Monitors (Badges)

A Quick How to Guide

Your badges arrive.



Open the box and find the Technical Insert on top.



TECHNICAL INSERT

Item No	571	ChemDisk™ Monitor for Aldehydes	Prepared by	VHL
Edition	06/20/2014		Approved by	CRM

The ChemDisk™ Personal Monitor is designed to measure exposure to chemicals in order to demonstrate workplace compliance with Permissible Exposure Limits (PELs) and Short Term Exposure Limits (STELs) defined by the Occupational Safety and Health Act of 1970 and Title 29 Code of Federal Regulations.

This **Technical Insert** contains product specific information on use and storage.

9159-571 06/2014

Sampling Medium:	Fiberglass coated with 2,4-dinitrophenylhydrazine (DNPH)
Analytes Sampled:	Formaldehyde, Glutaraldehyde, and o-Phthalaldehyde; See <i>AT Labs IH Sampling Guide</i> for other aldehydes
Analytical Method:	Modified OSHA 1007; Modified OSHA 64; Modified EPA TO-11: Desorption in acetonitrile; analysis of the DNPH derivative by high performance liquid chromatography (HPLC) with UV/VIS detector
Recommended Sampling Time:	Formaldehyde: PEL = 8 hrs or full shift; STEL = 15 min Glutaraldehyde: Ceiling = 15 min; IAQ = 24-72 hrs o-Phthalaldehyde: STEL = 15 min Functional range: 15 minutes - 72 hours
Recommended Holding Time:	Monitors must be received by Lab within four (4) weeks after sampling.
Sample Capacity:	Formaldehyde: 12.5 ppm for 8 hour sample (100 ppm-hrs)
Reporting Limit (RL):	Formaldehyde: 0.33 ppm for 15 min, 0.010 ppm for 8 hrs (0.080 ppm-hrs); Glutaraldehyde: 0.020 ppm for 15 min (0.0050 ppm-hrs); o-Phthalaldehyde: 0.020 ppm for 15 min (0.0050 ppm-hrs)
Sampling Rate (SR):	Formaldehyde: 16.2 mL/min; Glutaraldehyde: 7.24 mL/min; o-Phthalaldehyde: 6.18 mL/min
Interfering Substance(s):	Other aldehydes and ketones do not interfere if HPLC resolution is adequate.
Effect of Temperature:	Effect on result ≤ 5% within 0 - 50°C (32 - 122°F).
Effect of Humidity:	Functions as claimed within 20 - 80% RH.
Accuracy (MTE):	Meets or exceeds OSHA requirements for accuracy: Maximum Total Error (MTE) ≤ 25% at PEL; ≤ 25% at STEL and action level.
Storage Conditions:	Store under refrigerated conditions for maximum shelf life. Do Not Use after Expiration Date printed on pouch.
IMPORTANT:	Warranty valid only if Instructions for Use have been followed.
WARNING:	Wash affected area thoroughly if Sampling Medium is contacted.

For detailed directions, see **Instructions for Use** included in each package of Monitors.

For information about each analyte which can be sampled, refer to *AT Labs IH Sampling Guide* at www.assaytech.com or call **TOLL FREE NUMBER 1-800-833-1258**

Wearing a Badge. What could be easier?



1. Put on the Clip.
2. Note the Serial number.
3. Open the Badge.
4. Clip it to your Collar.



- But which Badge?
- How long?
- How do you send it?
- Where do you send it?
- Etc, etc,

How about some helpful hints?

Tip #1 - Use the Website FAQs



The screenshot shows the Assay Technology website. The header includes the logo, navigation links (Online Ordering, AT Sampling Guide, Search, Login, Cart), and a secondary menu (Air Samplers, Lab Services, Customer Support, SmartBadge App, Respirator Testing). A dropdown menu is open, showing links to Contact Us, Price Lists, Company Information, Lab Request Forms, **Frequently Asked Questions** (highlighted with a yellow arrow), and About the Team. The main banner features the text "The Technology Leader in Personal Air Monitoring" and "The most cost-effective and convenient way to monitor chemicals in a worker's personal breathing zone." Below the banner are four buttons: About Us, Personal Air Monitoring, Chemical Capacity Testing, and Atmosphere Generators. The footer contains a "In the News" section with a link to "Formaldehyde Levels in Homes" and a "Steve's Technical Corner" section.

assay technology

Online Ordering AT Sampling Guide Search ... Login | Cart

Air Samplers Lab Services Customer Support SmartBadge App Respirator Testing

Contact Us
Price Lists
Company Information
Lab Request Forms
Frequently Asked Questions
About the Team

The Technology Leader in Personal Air Monitoring

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About Us Personal Air Monitoring Chemical Capacity Testing Atmosphere Generators

In the News
Formaldehyde Levels in Homes
Formaldehyde is a common source of indoor air quality complaints for homeowners and in the [Read More ...](#)

Steve's Technical Corner

FAQs Online – Before you buy, while you use, after you use, and once you receive the results.

Click on “+” for answers.

Sampling Media

Are diffusive badges recommended for compliance sampling?	+
Why can't some chemicals be analyzed together even though they can be collected on the same type of badge?	+
Are blanks required by the lab for the analysis of Assay Technology personal monitors?	+
Why are blanks required by the lab for each set of sampling tubes or cassettes I submit?	+
What does sample capacity mean and why should I care?	+
What is the minimum face velocity required for the badges to function as claimed?	+
How do I know which media to use for sampling specific chemicals?	+
Where can I send my samples for analysis by an AIHA-LAP, LLC accredited lab?	+
I am having trouble removing the covers from the TraceAir badges (521 and 580).	+

Shipping

What does "Store Under Refrigeration" mean?	+
Which lab do I ship my badges/media to after use?	+
Does Assay Technology receive packages on Saturday?	+

FAQs – All available on the website: assaytech.com

Sampling Guide FAQs

What's new about the Sampling Guide?



Why can't some chemicals be analyzed together even though they can be collected on the same badge?



Lab Report FAQs

How do I read my lab report (Short video answer)



How do I read my lab report? (Detailed version)



Why doesn't my report tell me if I passed or failed?



What do all the columns on my report mean?



What equations are used to determine the exposure?



Which column has the data that I am looking for?



Is the exposure a "TWA?"



The exposure on our report is the analyte's average concentration in the air for the period of time that was monitored. It is NOT necessarily an 8 hour time-weighted average (TWA). It is an 8 hour TWA only if you monitored for 8 hours. If you want to convert the exposure to an 8 hour TWA and do not know how, please call for technical support at 800-833-1258. Based on what you know about the environment that was sampled, you will need to decide what happened while you were *not* monitoring. For example, if you monitored for 5 hours, then what happened during the other three hours? Did you expect the exposure rate would not change or did any possible exposure end?

Is the Concentration Reporting Limit the regulatory limit?



Why do the Concentration Reporting Limits vary on my samples even though I am testing for the same chemical?



What is Total Quantity Found (ug)?



What does "ND" mean?



Tip 2 – Use the Sampling Guide on the website to determine which badge to use.

https://www.assaytech.com/sampling-guide/

Select Test Group: Select Badge: Clear Filters

Show 10 entries Search:

	Chemical Name	CAS Number	Badge/Media	Description	Sampling Rate (mL/min)	PEL	STEL	8 hr Rpt Lmt	RL (ug)	Vol (L)	TAT	Test Group
<input type="checkbox"/>	Acetaldehyde	75-07-0	581AT	Badge, GFF w/DNPH	84.7	OSHA 200 PPM	ACGIH CEILING 25 PPM	0.041 PPM	3		10	Aldehyde
<input type="checkbox"/>	Acetaldehyde	75-07-0	571AT	Badge, GFF w/DNPH	11.7	OSHA 200 PPM	ACGIH CEILING 25 PPM	0.30 PPM	3		10	Aldehyde
<input type="checkbox"/>	Acetaldehyde	75-07-0	580AT	Badge, GFF w/DNPH	80.7	OSHA 200 PPM	ACGIH CEILING 25 PPM	0.043 PPM	3		10	Aldehyde
<input type="checkbox"/>	Acetic Acid	64-19-7	543AT	Badge, NaOH treated G Bac Carbon	11.0	OSHA 10 PPM	ACGIH TLV 15 PPM	0.077 PPM	1		6	Acetic Acid
<input type="checkbox"/>	Acetic Acid	64-19-7	J6-001	Tube, Charcoal 50-100mg	0.10 L/min	OSHA 10 PPM	ACGIH TLV 15 PPM	0.0085 PPM	1	24	6	Acetic Acid
<input type="checkbox"/>	Acetone	67-64-1	521AT	Badge, Charcoal	83.0	OSHA 1000 PPM	ACGIH STEL 500 PPM	0.021 PPM	2		6	OV List A
<input type="checkbox"/>	Acetone	67-64-1	546AT	Badge, Charcoal	3.23	OSHA 1000 PPM	ACGIH STEL 500 PPM	0.54 PPM	2		6	OV List A
<input type="checkbox"/>	Acetone	67-64-1	566AT	Badge, Charcoal	12.9	OSHA 1000 PPM	ACGIH STEL 500 PPM	0.14 PPM	2		6	OV List A
<input type="checkbox"/>	Acetone	67-64-1	J6-001	Tube, Charcoal 50-100mg	0.10 L/min	OSHA 1000 PPM	ACGIH STEL 500 PPM	0.018 PPM	2	10	6	OV List A
<input type="checkbox"/>	Acetonitrile	75-05-8	521AT	Badge, Charcoal	93.6	OSHA 40 PPM		0.019 PPM	1.4		6	OV List A

Showing 1 to 10 of 590 entries

Previous 1 2 3 4 5 ... 59 Next

The Bolded lines are the chemical/badge combinations we recommend.

What's in the box?



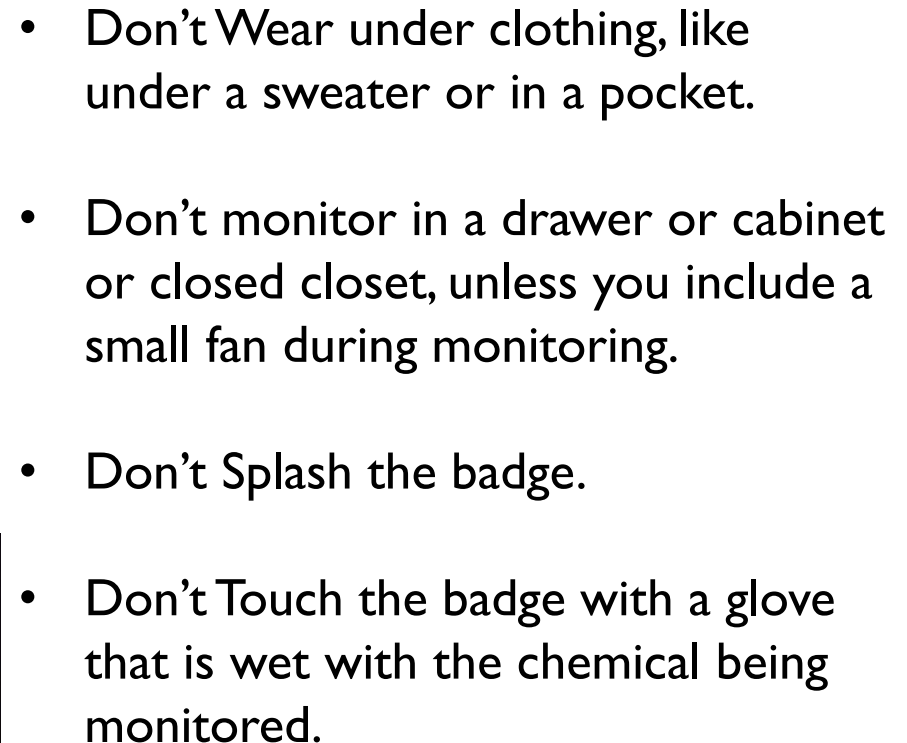
- ▶ A. Inside the box will be packets. Each containing...
- ▶ B. A sealed pouch with a scavenger pack and badge. Don't open the pouch until you are ready to start.
- ▶ C. Scavenger pack can be thrown away or kept in the pouch for the trip back to the lab.
- ▶ D. The badge will have a serial number on the back. In this case MF0973. The QC codes are used by customers who are already using Assay's SmartBadge App.



What's in the box? - Continued



- ▶ E. Lab Request Form.
 - ▶ Be careful about the Report To.
 - ▶ Remember if you have prepaid for an analysis, if you ask for more, there will be a bill after the job is complete.
 - ▶ You can also use:
 - ▶ PDF Lab Request Forms on the website
 - ▶ Your own Lab Request Form
 - ▶ Someone else's Lab Request Form
 - ▶ Our Free SmartBadge App.
 - ▶ If you know your customer number, enter that in the top right instead of writing your address over and over
- ▶ F. The **Clips** are color coded to indicate the amount of prepaid analysis. So, send them back.
- ▶ G. Every badge gets a set of **Instructions**.
- ▶ H. We recently changed from a return envelop to a **sealing stick**. More later.



Returning to the Lab

Carefully consider who should get the report.

Enter the start and stop time OR Time Sampled. Entering both leads to confusion.

The Monitor ID/Serial number is Letter, Letter, 4 numbers (AB1234)

If a badge can be used for multiple chemicals, check the chemicals you need tested.

If you have prepaid for analysis, you can request more chemicals, but understand there will be a charge.

The instructions state which lab each badge should be sent too. If you send a badge to the wrong lab, we will ship it overnight to the correct lab without an extension of the due date. If you have badges that go to each lab, pick one and we will handle it.



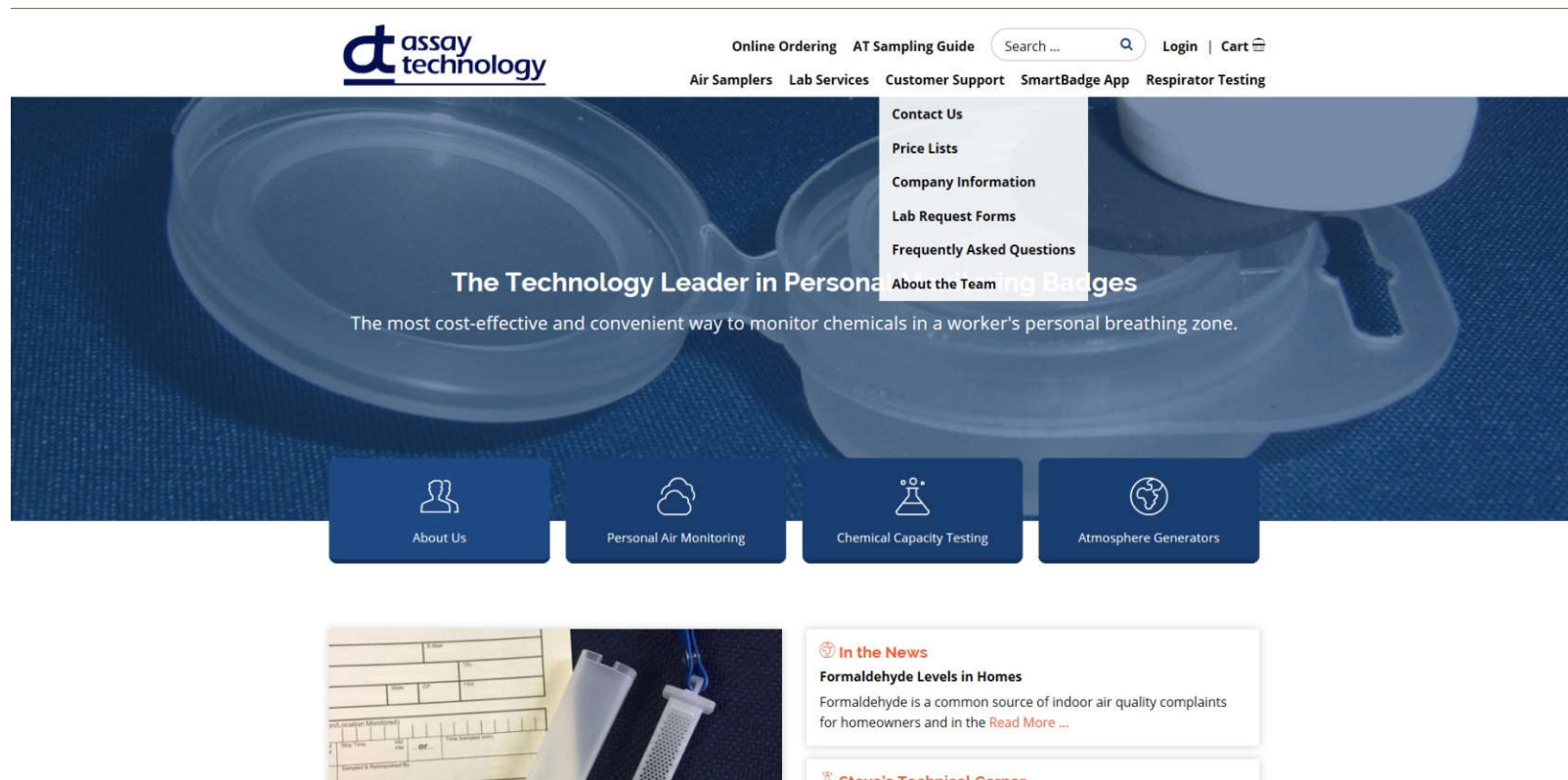
Only one badge per return envelop or risk cross contamination.

Ship back via a traceable method (not 1st class mail.)

Only the 595 badge requires refrigeration after sampling.

Need help Reading the Report?

Go online and read our report FAQs. It has answer to most every question customers ask.



Or call us at 800-833-1258