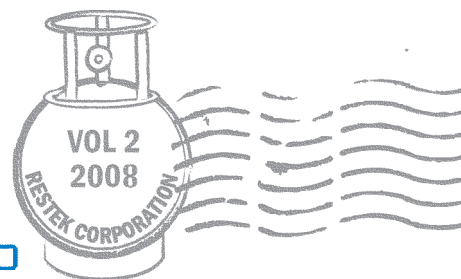


# RESTEK AIRMAIL



## Meet the Air Team!



**Spotlight on:  
Neil Mosesman**  
Marketing Manager

*"Restek's goal is to provide effective tools for air sampling to our customers. Having these products in stock for timely delivery helps*

*ensure that our customers can respond quickly to air sampling projects. We care what you think; we respond to customer input and use your comments to offer the best products for air monitoring. If you have questions about our current products, or ideas for new air monitoring products, we would enjoy hearing from you."*

## Upcoming Events

### Vapor Intrusion Conference

September 8–10  
Toronto, Canada

### ASTM Meeting, Committee D22 on Air Quality

September 28–October 1  
Miami Beach, FL

### Symposium on Air Quality Measurement Methods & Technology

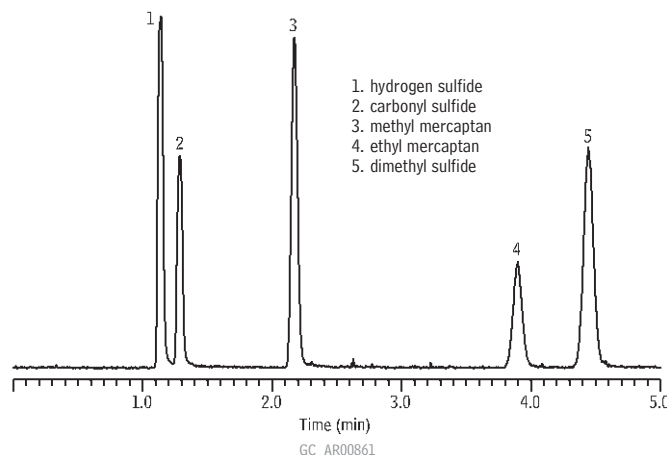
November 3–6  
Chapel Hill, NC

## New Applications!

Wondering what's new in air applications and products? At Restek, our scientists are dedicated to optimizing existing methods and breaking new ground in air monitoring applications. In this issue of the Restek Airmail, you'll find analysis of microbial VOCs and an optimized analysis of sulfur compounds. Here's a peak at what's new.

### GC Analysis of Total Reduced Sulfurs at ppbv Levels

Accurate determination of total reduced sulfurs requires the use of passivated sampling equipment to prevent adsorption losses of the highly active sulfur compounds. Here we show the resulting chromatography for reduced sulfur compounds from samples collected and stored in a highly inert SilcoCan™ canister, using a Sulfinert® treated gas sampling loop. For accurate, reliable analysis of reactive compounds, such as reduced sulfurs, the performance of Sulfinert® passivated canisters and transfer systems simply can't be equaled.



Column: Rxi®-1ms, 30m, 0.32mm ID, 4.00 $\mu$ m (cat.# 13396)  
Sample: hydrogen sulfide, carbonyl sulfide, methyl mercaptan, ethyl mercaptan, dimethyl sulfide, 100 ppbv each in helium  
Inj.: 1 $\mu$ L splitless, direct  
Sample loop temp.: 30°C  
Carrier gas: helium, constant pressure  
Linear velocity: 48cm/sec. @ 30°C  
Oven temp.: 30°C  
Det.: sulfur chemiluminescence detector  
Det. temp.: 800°C

Sample storage & transfer:  
SilcoCan™ air monitoring canister with Siltek® treated 1/4" valve (cat.# 24182-650); Sulfinert® treated gas sample loop, 1cc (cat.# 22848); Sulfinert® treated gas sample loop, 10cc (custom order)

see **new** sulfur calibration standard on page 3

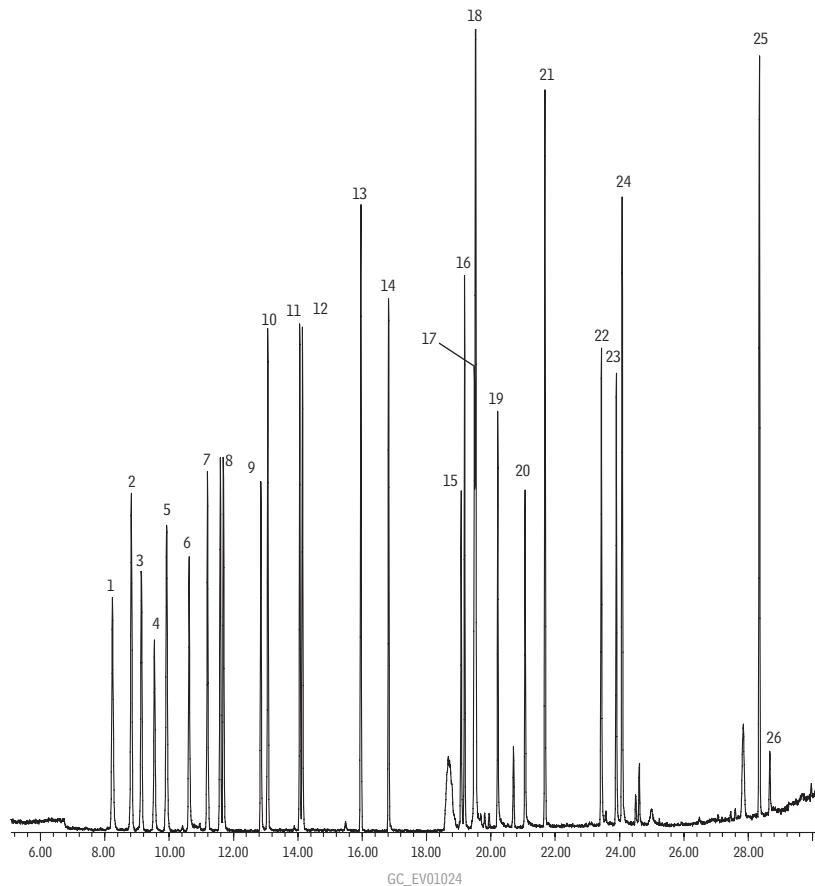
## Microbial Volatile Organic Compounds (MVOCs) by GC/MS

Mold growth in homes has been linked to serious human health and property value issues; thus, the early detection of mold has become of critical importance. Volatile organic compounds (VOCs) produced by mold can be detected even prior to visual methods using GC/MS. However, due to the polar nature of many mold VOCs and the low concentrations found in early detection, a passivated large volume collection device is needed for sampling. Here we show a successful application of highly inert SilcoCan™ canisters and GC/MS for monitoring low level mold growth in building structures.

Column: Rxi®-1ms, 60m, 0.25mm ID, 1.00µm (cat.# 13356)  
 Sample: microbial volatile organic compounds, 50 ppbv, 60% RH  
 Inj.: 1.0µL split (split ratio 10:1), 1mm split inlet liner (cat.# 20972)  
 Inj. temp.: 200°C  
 Carrier gas: helium, constant flow  
 Flow rate: 1.5mL/min.  
 Oven temp.: 10°C (hold 1 min.) to 260°C @ 8°C/min.  
 Det: Agilent 6890/5973 GC/MS

Transfer line temp.: 260°C  
 Scan range: 35 to 350amu  
 Ionization: EI  
 Mode: scan  
 Other: Nutech 8900DS Preconcentrator  
 Conditions:  
 Sample = 200mL from canister  
 Cryotrap = -160°C  
 Desorb = 20°C  
 Cryofocuser = 200°C  
 Desorb = 200°C

Compound	Rt (min.)
1. 2-butanone	8.2390
2. 2-methyl-furan	8.8180
3. 3-methyl-furan	9.1400
4. 2-methyl-1-propanol	9.5400
5. 2-methyl-2-butanol	9.9190
6. 1-butanol	10.6270
7. 3-methyl-2-butanol	11.1840
8. 2-pentanol	11.6920
9. 2-methyl-1-butanol	12.8500
10. dimethyl-disulfide	13.0640
11. 3-hexanone	14.0580
12. 2-hexanone	14.1440
13. chlorobenzene-d5	15.9590
14. 2-heptanone	16.8240
15. 1-octen-3-ol	19.0760
16. 3-octanone	19.1760
17. 3-octanol	19.4830
18. 2-pentyl-furan	19.5260
19. 2-ethyl-1-hexanol	20.2120
20. 1-octanol	21.0630
21. 2-isopropyl-3-methoxy-pyrazine	21.6780
22. isoborneol	23.4290
23. α-terpineol	23.9010
24. 2-methylisoborneol	24.0790
25. geosmin	28.3470
26. 1-dodecanol	28.6680



## Now Available!

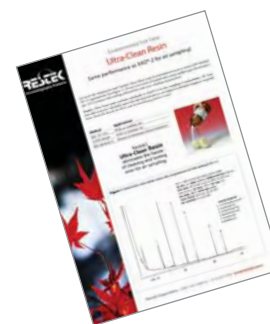
Free Literature! Download your free copy from [www.restek.com](http://www.restek.com).



**Air Monitoring Products Catalog**  
 (mini-catalog,  
 cat.# GNMC1062)



**Whole Air Sampling for Vapor Intrusion**  
 (tear sheet,  
 cat.# EVTS1023)



**Restek Ultra-Clean Resin**  
 (fast facts,  
 cat.#59315A)

# New Products!

**We listened to you!** Based on customer response, we've added new products to our air monitoring line. Let us know what you want and we'll get it; your success is our goal!



Ashcroft Test Gauges



PUF Cartridges



Sulfur Gas Standard mix



High Pressure Sample Cylinders

## Ashcroft Test Gauges

- Accurate measurement of vacuum to 30"Hg and pressure to 60psi.
- Available in both analog and digital formats.
- Accuracy to  $\pm 0.25\%$ .

Description	qty.	cat.#	price
Analog Test Gauge, 6" diameter, 1/4" NPT	ea.	24285	
Digital Test Gauge, 3" diameter, 1/4" NPT	ea.	24268	

## Sulfur 5-Component Mix

12-month stability.  $\pm 10\%$  accuracy.

carbonyl sulfide                      hydrogen sulfide  
dimethyl sulfide                    methyl mercaptan  
ethyl mercaptan

1ppm in nitrogen, 110 liters @ 1,800psi  
cat. # 34561 (ea.)

1ppm in nitrogen, 110 liters @ 1,800psi (Pi-marked Cylinder)  
cat. # 34561-PI (ea.)



## Hot Topic?

Do you have a question, hot topic, or tech tip you'd like to submit to Air Mail? Simply email [irene.degraff@restek.com](mailto:irene.degraff@restek.com)

## Cleaned Polyurethane Foam (PUF) Cartridges

- Pre-cleaned and ready to use for collection of semivolatiles (pesticides, PCBs, PAHs).
- Both large high-volume (220-280L/min.) and small low-volume (1-5L/min.) PUFs available.
- Suitable for ambient, indoor, and industrial hygiene applications.
- PUF/XAD-2 "sandwiches" capture a wider range of semivolatiles.

Description	qty.	cat.#	price
Cleaned PUF Plug (7.6cm length, 6cm diameter)	ea.	24295	
Large PUF Cartridge, 65mm OD x 125mm length, 75mm PUF	ea.	22114	
Large PUF/XAD Cartridge, 65mm OD x 125mm length, 25mm PUF/10g XAD-2/50mm PUF	ea.	22115	
Small PUF Cartridge, 22mm OD x 100mm length, 76mm PUF	ea.	22116	
Small PUF/XAD Cartridge, 22mm OD x 100mm length, 30mm PUF/1.5g XAD-2/30mm PUF	ea.	22117	

## Sulfinert® Treated Ultra-High Pressure Sample Cylinders and Valves

- Stable storage of samples containing sulfur compounds and mercury.
- Cylinders manufactured by Swagelok® and U.S. D.O.T. rated to 5000psig.
- Valves rated to 6,000psig.
- 316 grade stainless steel with 1/4" female NPT threads on both ends.

Sample Cylinders	Size	qty.	cat.#	price
Sulfinert Sample Cylinder, 1/4" Female NPT Thread	150cc	ea.	22111	
Sulfinert Sample Cylinder, 1/4" Female NPT Thread	300cc	ea.	22112	
Sulfinert Sample Cylinder, 1/4" Female NPT Thread	500cc	ea.	22113	
Sample Cylinder Valves	qty.	cat.#	price	
Sulfinert Sample Cylinder Valve, 1/4" Male NPT (both ends)	ea.	22109		
Sulfinert Sample Cylinder Valve, 1/4" Male NPT x 1/4" Female NPT	ea.	22110		


# New Sample Concentrator From Markes International!

## UNITY2-CIA8 by Markes International Sample Concentrator for both Canisters and Thermal Desorption Tubes

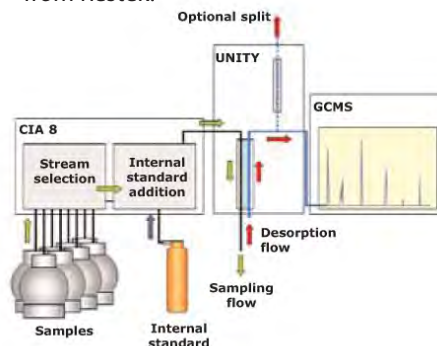
The UNITY2-CIA8 sample concentrator adds automated canister and on-line air/gas stream analytical capability to any series 2 (ULTRA-)UNITY thermal desorption (TD) system. It features cryogen-free operation and low consumption of gas supplies, for saving operating costs and reducing downtime. This unit offers a minimum of 3 channels for sequencing between sample, zero, and standard air/gas streams during unattended on-line monitoring, and up to 8 channels for high throughput analysis of whole-air/gas samples.

**For more information,** visit Markes website, at <http://www.markes.com/en/instrumentation/airserver2.aspx>, or, in the US, contact John Dwan, [jdwan@markes.com](mailto:jdwan@markes.com).

Works with canisters and thermal desorption tubes—both available from Restek.



**did you know?**  
Restek offers a variety of high-quality thermal desorption tubes for US EPA Method TO-17 and NIOSH 2549. Refer to our catalog or visit us online.



## Save Money!

Save money and increase performance with Restek's canister and flow controller repair service.

Normal wear and tear on canisters and components can result in damage causing leakage. Restek's repair service allows you to extend the life of your equipment for much less than the cost to replace with new products.

Contact Customer Service at 800-356-1688, or your Restek representative, to take advantage of this service. You will be given instructions and an SRV # to return the parts to us.



### Sampling Kit/Flow Controller Repair

Includes all new rubber seals in flow controller and orifice and frit replacement  
550131

### Canister Repair

Includes valve replacement, leak test & cleaning  
560838

**HOT**  
**SUMMER DEALS**

From Restek!

up to **50%** discount  
on passive air sampling kits

**15%** discount  
on new air monitoring products

details at [www.restek.com/hotdeals](http://www.restek.com/hotdeals)

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