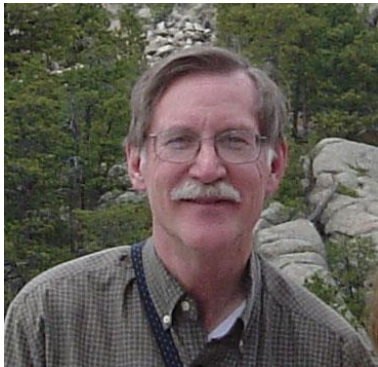

Fike

Analytical Technologies, L.L.C.



Dr. Randall Fike

Welcome to Fike Analytical Technologies!

This newsletter is designed to inform our customers about technical issues and to update them on what's happening at Fike Analytical.

www.fikeanalytical.com

This issue's technical topic: Odor Complaints

Do you ever get calls from prospective clients with odor complaints? Do you get them often? Do they strike fear in your heart? There are a few exceptions where inorganics like ammonia, hypochlorous acid (bleach), hydrochloric acid, etc. are present, but more than 95% of the odor cases we handle at Fike Analytical involve odors caused by the presence of one or more volatile organic compounds. Chasing down the compound(s) and then identifying the source is where the challenge lies. When approaching the investigation of an odor complaint here are the key things to remember:

Handhelds are nearly worthless. PID, FID, and electronic hand-held detectors are rarely useful in finding odor sources primarily because there are so many interferences present at concentrations higher than that of the odor compounds. There are a few exceptions (like H₂S) but that is a topic for a future newsletter.

Passivated canisters are nearly worthless. With 400 times more sensitivity than canisters and the ability to determine 30% more compounds, thermal desorption tubes are the only way to go.

Don't assume your client knows the source for the problem. Sure, if someone spills a bottle of perfume there will be an odor. BUT, you won't be called in to investigate it. You will only be called in to investigate something that cannot be easily explained. However, everyone at the site will have a theory. The temptation is to just investigate everyone's theory. Our experience at Fike Analytical is that, in the vast majority of our cases, the theories are wrong. A full VOC investigation is always warranted. AirSurvey from Fike Analytical provides compound-specific data on all C>2 VOC's and is the perfect choice for a thorough investigation. Check out the www.fikeanalytical.com web site for details on AirSurvey.

Gather the internal environmental data. For many volatile organics, there are often multiple potential sources. Since you are the "boots on the ground," you will need to provide data to narrow down potential sources when interpreting the list of chemicals from an AirSurvey analysis. The technical staff at Fike Analytical will need information about things like:

- Building description (size, HVAC zones, floors, etc.).
- What's going on in the facility?
- What is the demographic of the occupants?
- What is the heating fuel supply?
- How is the building constructed (old/new building, exterior skin, roof type and condition, on slab, etc.)?
- What is inside the building (machines, offices, warehouse, auto repair, public traffic, cooking, etc.)? Be sure to look for the unusual or unexpected.

Gather the external environmental data. Every problem is someone else's fault, right? Don't count on it. But, to be sure, check out the surrounding environment. Is this a residential, industrial, commercial area? Is it a urban, suburban, or rural area? Who are the neighbors? What's going on outside the facility? Is there a sewage treatment plant next door? Is the odor noticeable outside the structure or just inside? It is not possible to list all of the potential exterior contributors; just note everything, even if you don't think that it could impact the case. When you talk with the technical staff at Fike Analytical to interpret the analytical results, they will ask you a bunch of questions based on what they see in the data. It is important that you have the information needed to assist in interpretation.

Understand the nature of the odor described to you by the client. If you can smell the odor yourself during your visit this eliminates psychosomatic phenomena and eliminates third party descriptions when talking with the technical staff at Fike Analytical. However, whether it's your perception or that of your client, ask these questions: is the odor singular (skunk, diesel fuel, moth balls, etc.); is the odor general (moldy, dead animal, sewer gas, etc.); is the odor broad (ethereal, a sensation, or don't have a clue but you can smell it); if you can't identify it, what does the odor remind you of (mom's apple pie, a McDonald's restaurant, a sewer, a candle shop, etc.)? A description of the nature of the odor provides valuable information to narrow down the search field.

Is the odor intermittent? If the odor you're investigating is intermittent, you can't hang around the site for days waiting for the odor to occur. The best way to handle this is to set up a pump fitted with a gently capped sampling tube and leave it with the client. Tell the client to remove

the cap and turn on the pump every time they detect the odor and to turn the pump off and replace the cap when the odor is no longer discernible. Tell them to write down the times they turn the pump on and off. If the pump is set for 200 ml/min, tell the client to add up the times the pump has been on and stop taking samples when the total time hits 200 minutes.

Know your resources. Are you working with a laboratory where your primary contact doesn't even have an advanced degree in Analytical Chemistry, does not have 20+ years of experience in air analysis, and is not a licensed builder? Tap into the best in the field and go with Fike Analytical.

Are you using the best trimatrix thermal desorption tubes? When dealing with odor-causing VOCs, the cleanliness of the thermal desorption tube you are using to sample is paramount. Tubes produced by Fike Analytical are up to 98% cleaner than tubes produced by anyone else. Using Fike Analytical tubes, it is often possible to get down to 20 ng/L TVOC and single digit parts-per-trillion levels of many sulfur compounds and other "stinkers." Some marker compounds can even be detected into the parts-per-quadrillion.

Check out our web site www.fikeanalytical.com . We're here to help you...Whatever it takes!

pHor pHun (because life is too short to be serious all the time)

Education is what you get by reading the fine print; experience is what you get if you don't read it. [The Furrow, courtesy John Deere]

Talk is cheap because the supply exceeds the demand. [The Furrow, courtesy John Deere]

Fike Analytical Technologies, LLC, is a consultative analytical laboratory specializing in the analysis of air. Reach us by emailing randall@reagan.com . You can also call us at 248-241-6713.

We don't just analyze samples...We solve problems

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