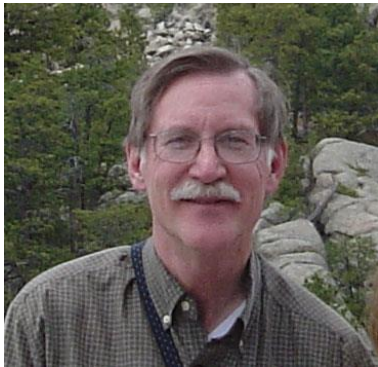

Fike

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: Ozone Treatment

Ozone treatment to eliminate odors and chemicals in the air has been around awhile and even though it is essentially worthless and can cause severe unintended consequences, it is still being used. Fike Analytical runs into an ozone mess nearly every week. Fortunately, our investigators do not recommend the treatment but often wind up entering the scene after the treatment has already been done. AirSurvey analysis can be used very effectively to spot ozone treatment. Frequently, after looking at the results of an AirSurvey analysis, we will ask the investigator "Who put in the ozone?" The investigator may tell us that no ozone has been used. But, when the investigator digs deeper, it is always discovered that ozone actually was applied – sometimes months prior to the sampling. There are three myths about ozonation which need debunking:

- Myth 1:

Ozone reacts with organic molecules in the air to oxidize them and leave the air clean, fresh, and uncontaminated.

Dispelling the myth – ozone does indeed react with most organic molecules and, even if we concede that complete destruction of organics in the air does occur (which it does not), the ozone cleanup theory does not consider the source. If a source exists, cleaning the air is useless because the pollutants in the air will be quickly replaced by contaminants re-emerging from the source. Think of a can of gasoline in the kitchen. Cleaning up the gasoline vapors in the air accomplishes absolutely nothing. The gasoline vapors will simply be replaced by new contamination from the source. Because ozone only attacks what's in the air at the time it was administered, you can get the same effect by opening the windows and doors and airing the place out. It's cheaper and does not have the negative effects of ozone. Of course, airing the place out does not attack the source either. It is the source that must be addressed.

- Myth 2:

Ozone converts the organic molecules in the air into CO₂ and water. This room-temperature combustion, as it were, leaves no organics in the air

Dispelling the myth – think of a large bomb going off inside of a building. The bomb does not totally vaporize the building; it merely reduces most of it to rubble. The rubble remains. The same is true for ozone. The byproducts of the ozonation are not simply CO₂ and water. The byproducts contain a myriad of organic debris that may be more deleterious than the original compounds and may collect on surfaces or be absorbed by surrounding materials such as drywall and wood.

- Myth 3:

Ozone reacts only with what is in the air and affects nothing else.

Dispelling the myth – Ozone in the air is in intimate contact with everything within the structure, not just the organics in the air. Ozone preferentially attacks double bonds in a process known as ozonolysis. It degrades polymers, compromising the structural integrity of things like rubber, printer rollers, seals, “O” rings, and plastics. It reacts with paints sometimes resulting in rancidification which causes a strong, foul odor. It degrades varnishes. It damages elastomers such as the elastic in clothing (which may have the unintended consequence of a wardrobe malfunction).

In summary:

Never use ozone to clean/purify the air!

Are you looking for someone to set up or administer your web site? If you need a web presence but want to go with someone who specializes in the “little guy” and who doesn't charge an arm and a leg, we suggest you contact Sami Aaron. She specializes in setting up and maintaining web sites for small companies. Contact Sami@beingontosomething.org 913- 915-1971. No, we don't get a kickback or finder's fee from Sami. We're giving you this information just to help you.

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)

Freedom of the press is limited to those who own one. - A.J. Leibling (1904 - 1963)

It's not that you are having trouble with your own life; it's the other people in it.

Giving up is so much easier than trying.

Fike Analytical Technologies, LLC, is a consultative analytical laboratory specializing in the analysis of VOCs and particulate in the 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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