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## Wildfires and Air Quality

Wildfire smoke contains numerous pollutants including microscopic particles known as PM10 and PM2.5. Air quality studies during wildfires have shown that these contaminants can reach significant concentrations inside homes, schools and places of work. PM2.5 contaminants can get into your eyes and respiratory system, where they can cause health problems such as burning eyes, runny nose, and illnesses such as bronchitis. Fine particles can also aggravate chronic heart and lung diseases - and are linked to premature deaths in people with these conditions. It's important to note that dust masks do not protect against fine particles.

There are a few steps that you can take as an employer or home owner to lower the level of microscopic particles indoors:

1. Keep windows and doors closed - unless it's extremely hot outside.
2. Be aware of the [Air Quality Index](#) (AQI) in your area.
3. If weather permits, run the air conditioner. Keep the fresh air intake closed and the filter clean to prevent bringing additional smoke inside.
4. When smoke levels are high, try to avoid using anything that burns, such as wood fireplaces, gas logs, gas stoves, cigarettes/cigars, even candles. Avoid vacuuming as that stirs up additional particles.
5. Sensitive groups including older adults, individuals with existing lung/heart disease and children are especially susceptible to negative health effects from particulate matter. When smoke is heavy for a prolonged period these particles can continue to build indoors. If the AQI becomes high enough doctors may advise patients to leave the area.
6. Certain air purifiers may help lower the amount of particulate indoors but steer clear of purifiers that generate ozone as they create further indoor pollution.

For further information on wildfires and air quality visit [www.airnow.gov](http://www.airnow.gov)

### Facts about Wildfires:

1. Fine particulate contaminants from wildfires can block sunlight to earth's surface while absorbing solar radiation above. The resulting effect is trapped smoke particles in the lower atmosphere further worsening air quality.
2. Over seventy-six thousand wildfires break out on average in the United States each year.
3. Smoke and toxic gases are the number one killer in a fire.

## Analysis of the Month

### Solvent Panel— 2 for the price of 1

DataChem is offering a discount on our solvent panel during the month of November. Each panel consists of 30 compounds for \$110.

For further details contact us at [info@datachem.com](mailto:info@datachem.com)

To take advantage of the offer simply refer to the newsletter in your analytical request. Discount is only available at our Salt Lake facility.

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Recent California wildfires burning dangerously close to homes.

## Multiple Compounds One Low Fee

There are numerous ways to sample for contaminants. Often times sampling techniques can cost thousands of dollars when information on multiple contaminants are required. Running a solvent panel on charcoal tubes is a very cost effective alternative. The solvent panel provides quantitative results with full calibration for 30 target compounds<sup>1</sup>. The use of media standards and frequent continuing calibration standards provides excellent recovery on QC spikes of known concentration. With the use of GC/MS instrumentation, a positive identification of compounds is made. By comparison, conventional detectors used in most OSHA and NIOSH methods cannot provide this confirmation. Additionally, any chromatographic peaks that are not part of the target compound list can be tentatively identified from the mass spectral data<sup>2</sup>. Accurate results for 30 compounds can be obtained for \$110 by requesting the solvent panel. Compare this to the cost of using OSHA or NIOSH methods for each compound. Additional savings come from the simplicity of analyzing all 30 compounds on one charcoal tube. OSHA or NIOSH methods would require collecting three or four different samples.

<sup>2</sup> additional fees may apply, contact your Project Manager for details.

### Solvent Panel Compounds<sup>1</sup>

Benzene	Cyclohexene	Methyl isobutyl ketone	Tetrachloroethene
n-butyl alcohol	1,3-dichlorobenzene	Naphthalene	Tetrahydrofuran
n-butyl acetate	1,2-dichlorobenzene	n-octane	Toluene
2-ethoxyethanol acetate	1,4-dichlorobenzene	2-pentanone	Trichloroethene
Chlorobenzene	1,2-dichloroethane	n-propyl acetate	Total methyl styrenes
Chloroform	Ethylbenzene	Styrene	Total xylenes
Cumene (isopropyl benzene)	n-hexane	1,1,1-trichloroethane	
Cyclohexane	Methyl ethyl ketone (MEK)	1,1,2-trichloroethane	

**Sensitivity and Simplicity**  
Contact Your Project Manager about the Advantages of using LC/MS for your Next Drug Screen Analysis!