



TIP OF THE MONTH



## IAQ/ODORS/VOCs RESIDENTIAL AND COMMERCIAL PROPERTIES

### TEN IMPORTANT VOC FACTS

1. Volatile Organic Compounds (VOCs) are a group of carbon-based chemicals such as solvents and petroleum products that easily evaporate at room temperature and **off-gas** from building materials, furnishings, cleaning products, paints, adhesives, combustion sources, etc. Personal care products such as perfumes and other cosmetics are also VOC sources.
2. Odors in the indoor environment are a mixture of VOC sources almost always in the **ppb range** (unless dominated by an uncontrolled source). Odor perception/detection varies significantly in description and the concentrations where identified (e.g., odor threshold).
3. Odors can be transient, intermittent and rarely uniformly reported by occupants in regards to their presence/location. Studies show that levels of VOCs indoors is generally **2-5 times higher** than the level of VOCs outdoors.
4. VOC sources associated with building materials and furnishings such as carpeting, furniture, plastic, paint or electronic devices off-gas more VOCs when **new and decline over time**. VOC sources tend to off-gas more under warmer and higher humidity conditions.
5. **Source control** to remove or reduce the number of VOC sources is the first step to reduce occupant exposure. Planning renovations by selecting low VOC emitting materials; and performing renovations during unoccupied conditions using maximum ventilation (fresh air movement for dilution) is recommended.
6. There are no federal IAQ standards for VOCs at the levels present in residential or commercial properties. VOC levels are almost always <100 times below their respective OSHA standards and found at levels where adverse health effects “to healthy persons” should not occur.
7. The US Green Building Council’s LEED program has established an occupancy level of 500 ug/M3 or 500 ng/L for total VOCs (TVOCs). Air sampling data should also be evaluated for specific EPA Hazardous Air Pollutants that are known/suspected to cause cancer and other serious health effects (such as benzene, xylene, toluene, methylene chloride, carbon disulfide, etc.).
8. Air sampling for Mold VOCs is also a valuable tool as an indicator of active mold growth. Again, there is no federal or state regulations for MVOCs. AET utilizes a level of 8 ng/L as an indicator to perform a more comprehensive IAQ investigation for mold growth.
9. In addition to being a nuisance to occupants, odors including TVOCs and MVOCs can aggravate health problems in chemically-sensitive persons including the elderly, children and persons with asthma and allergies. Common symptoms including burning/irritation in the eyes, nose and throat, headaches and nausea.
10. Adding new chemicals/VOCs in the form of air fresheners to mask odors is not a recommended control option. Air cleaners have produced ozone (such as ozone generators) is also not recommended. Ozone is a serious lung irritant and may in fact increase VOC levels or degrade VOCs into more toxic compounds.

**About our organization:** AET has 29 years of contracting/consulting experience assisting our clients in facility planning, renovations, demolition, redevelopment and site restoration. Make AET your first point of contact for your consulting/contracting needs. Call us now at 610-891-0114 or 1-800-9696-AET.

**When you need professional IAQ advise,** email Alan Sutherland, CIH, CHMM at [a.sutherland@aetinc.biz](mailto:a.sutherland@aetinc.biz). AET’s provides nationwide services; phone consultations are free. Check out the full range of environmental contracting/consulting services we provide at our website at [www.aetinc.biz](http://www.aetinc.biz).

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