



## FREQUENTLY ASKED QUESTIONS OZONE TREATMENT - BUILDING DEODORIZATION

**QUESTION:** As an insurance claims manager, I frequently see a charge for Ozone treatment (building deodorization) on the claim cost analysis summary. I understand Ozone treatment is controversial, what is your professional opinion regarding ozone use.

**ANSWER:** AET is strongly against the use of Ozone for deodorization (particularly in residential settings).

*First...* resident occupants can spend 90% of their time indoors (exposures can be 24/7) and often involve children, the elderly and health impacted (chemically sensitive) individuals. The air exchange rates for residential HVAC units are significantly less than commercial. Ozone should never be used in an occupied environment.

*Second...* Ozone is a highly irritant gas with a low OSHA PEL standard of 0.1 ppm. Inhalation of even low concentrations of Ozone can cause eye, nose and throat irritation, shortness of breath, coughing and possible lung damage. Ozone can become a source of IAQ complaints rather than a control.

*Third...* Ozone has a relatively short life cycle and is comprised of three atoms of oxygen. The 3<sup>rd</sup> atom makes ozone unstable and highly reactive to other airborne contaminant molecules as well as building surfaces, finishes and furnishings. Ozone is not selective to what it reacts with. Further, Ozone reaction with airborne VOCs can result in harmful or irritating byproducts (such as aldehydes). Ozone has also been shown to damage/cause staining to walls and furnishings as the gas settles and reacts on surfaces.

*Fourth...* Ozone break down odors at the molecular level. Studies indicate that Ozone is not effective for deodorizing or cleaning except at extremely high levels, including prolonged exposure times. Ozone is not effective in removing carbon monoxide, formaldehyde, or airborne particles (dust or pollen). Ozone only reacts with what surfaces and compounds it can contact. Odor concerns from deep within a material surface or within access restricted building areas (void space) are unaffected as the Ozone can not typically penetrate.

*Fifth...* Ozone is known to deaden one's sense of smell which may only mask rather than eliminate the odor.

### **AET's recommendations to remove odors include:**

- Identify the odor source; Remove the source and other porous odor impacted materials.
- Effectively clean the work space and verify cleaning by visual inspection or surface sampling (where applicable).
- Vent the work space with fresh air
- For low level nuisance odors utilize activated charcoal filters within the HVAC system. A free standing air filtration device, equipped with HEPA filters and charcoal filters can be used for more significant conditions.
- For large areas and multi-room locations, develop/implement source removal, cleaning and venting into small compartmentalized controlled/isolated spaces to ensure maximum efficiencies.

When you need professional help or advice, email Alan Sutherland, CIH, CHMM at [a.sutherland@aetinc.biz](mailto:a.sutherland@aetinc.biz) or call 610-891-0114. We provide nationwide services; phone consultations are free. Check out the full range of environmental contracting/consulting services we provide at our website [www.aetinc.biz](http://www.aetinc.biz)

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