

## Frequently Asked Questions About Environmental Odors

### What are environmental odors?

Any odor is caused by a substance in the air that you can smell. Smells can be good or bad, often depending on someone's personal experiences with odors and what they find to be unpleasant. Most environmental odors in the outdoor air are not at levels that can cause serious health effects, but even so can impact your quality of life and sense of well-being. Some people experience symptoms when exposed to certain odors, which often go away when the odor is gone.

### Where do environmental odors come from?

There are many sources of odors in the environment including: animals, human activities, industry, nature, residuals from chemical spills and vehicles. There can also be odors associated with contamination events such as fuel spills.

### Are environmental odors toxic?

Our sense of smell protects us from harmful chemicals present in our environment or alerts us to chemical hazards. Sometimes when you smell an odor, it *does* mean that there is a problem with an air toxin—a good example of this is if you smell natural gas in your home. It is not the smell that is harmful, though, it is a smell alerting you to a potentially harmful amount of the chemical.

Sense of smell also helps us identify other things in our surrounding such as flowers, foods, or when the neighbor cuts the grass. People may have an unpleasant association with particular odors which may trigger a reaction such as nausea. For example, spoiled milk (an unpleasant smell) may make you feel nauseated when you smell it, but that does not mean that its presence will make you sick. Sometimes health symptoms occur at levels above the odor threshold but below the irritation threshold—meaning that you can smell it but there is not enough of the chemical in the air to cause a toxic health effect. There are several reasons for this. The presence of an unpleasant odor can cause health effects because they affect breathing patterns, impair mood, or induce stress—which can all cause or exacerbate illness separate from other factors.

On the other hand the smell of flowers (a pleasant smell) may trigger an allergic response. Allergic reactions occur when a chemical exposure stimulates the body's immune system to react, which is different than a toxic response that is based on the dose (amount and timing) of exposure to a chemical.

### What symptoms can I expect from odors of chemicals present at non-toxic levels?

Symptoms vary depending on the person and many other factors including: type of substance, concentration, how often you are exposed to it, how long you are exposed to it at one time, your age,

your health. Young children, elderly people, and pregnant women, and people with certain medical conditions (including asthma, COPD, and emphysema) tend to be more sensitive to odors.

- Headaches
- Nasal congestion
- Eye, nose, and throat irritation
- Hoarseness, sore throat
- Cough
- Chest tightness
- Shortness of breath
- Wheezing
- Heart Palpitations
- Nausea
- Drowsiness
- Mental Depression

Depending on the concentration of the odor, these symptoms may only last while you are smelling the odor. If the odor is above a level of irritation, then the symptoms may last after you are no longer exposed.

### **Are environmental odors regulated in the Virginia?**

Many toxic air pollutants are regulated by the EPA, however they are controlled for their toxicity, not their odor. For more information about air quality standards, visit the EPA's website.

There are no state-wide regulations regarding nuisance odors, however toxic air pollutants are regulated by the Department of Environmental Quality. Some localities may have additional regulations.

### **If I am dealing with a nuisance odor, what can I do?**

You can reduce your exposure to nuisance odors by closing windows and reducing air intake into your home when odors are present, by exercising indoors or at times when the odors are not present, or by leaving the area if possible.

If the nuisance odor is a larger, community concern, keep a diary of the odors and your symptoms. This helps with reporting to agencies that may be involved in investigating the exposure.

### **Where can I find more information?**

If you need further information regarding the environmental odors, please contact the Virginia Department of Health, Division of Environmental Epidemiology, 109 Governor Street, 4th Floor, Richmond, VA 23219, or call (804) 864-8182.

**Prepared by:** Virginia Department of Health, updated January 2018

### **Sources:**

ATSDR Environmental Odors webpage. Accessed 02-01-2018  
<https://www.atsdr.cdc.gov/odors/index.html>

Extension Toxicology Network. "Dose-Response Relationships in Toxicology." September 1993. Accessed 02-01-2018. <http://pmep.cce.cornell.edu/profiles/extoxnet/TIB/dose-response.html>