

Odors and your health

Odors

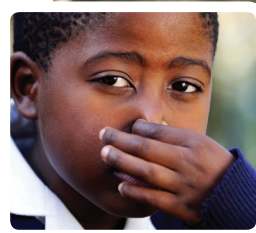
Oregon's public health agencies are often asked about odors. Community members voice concerns about certain smells in their environment and wonder if specific odors will make them sick. The information in this fact sheet is intended to help you understand how odors from environmental sources might affect your health and your quality of life, even if the chemicals causing the odors are below toxic levels.

What's that smell

We all know an odor is something in the air that is "smelled" or sensed by our nose. Apples smell like apples because of the unique chemicals that create the apple smell, and the same is true of all chemicals that create odors.

Our ability to smell can alert us to chemicals in our environment. However, just because we sense an odor doesn't mean that we are being exposed to toxic amounts of chemicals. In general, we can smell many hazardous substances before they are at harmful levels. Still, for some people, even non hazardous levels cause health symptoms that are caused by the smell itself. When this happens often, it can worsen their quality of life.

Also, when something smells bad, it doesn't always mean it is harmful to your health. Rotten eggs or strong cheeses are examples of this. Likewise, some very dangerous chemicals have either a mild odor or none at all, like carbon monoxide. Still others, like alcohol or benzene, may give off what some perceive as a pleasant odor.



How smell works

Similar to taste buds on the tongue, our noses are lined with specialized cells that detect specific odors. When an odor enters our nose, the specialized cells send signals to our brain through nerve pathways, which alert us to a smell. Once our brain receives the signals, we recognize the odor. Like taste, we sense smells instantly. Often times a smell can create an emotional response that may be tied to certain memories. These can be either pleasant or stressful.

Most smells are sensed by our “olfactory nerve”, which gives us the ability to smell things like flowers, fruit, fish, dirt, feces or urine. These smells can cause personal reactions, also known as “subjective symptoms.” These can include symptoms like stress, nausea, fear, headache, or, as with pleasant smells – delight.

Our “trigeminal nerve” is what triggers reactions like irritation, burning or stinging. These objective symptoms are often painful, and can be easily seen by others. Some symptoms may include watery eyes, coughing, burning nose, or increased heart rate.



Some sources of environmental odors:

Industrial

- Paper mills
- Landfills
- Solvent handling facilities
- Wood treatment plants
- Asphalt plants

Non-Industrial

- Pesticide and fertilizer applications
- Confined Animal Feeding Operations (CAFOs)
- Diesel exhaust
- Sewage

Everyone responds differently to odors:

- Some people may barely sense an odor and feel sick from it, while others might not even notice it.
- Certain smells may temporarily make a person feel ill. When this happens symptoms usually develop right away and typically stop once the odor disappears.
- Odors that smell good or pleasant to one person may ‘stink’ or bother another person.

Pleasant odors can have beneficial health effects

- Positive, happy mood;
- Easier to learn, or sleep;
- More resistant to pain;
- Fewer headaches and stomach aches.



Some symptoms that odor-producing chemicals may cause:

Subjective symptoms	Visible signs	Emotional effects
Headache	Watery, itchy or burning eyes	Mood and behavior changes
Dizziness	Burning nose or throat	Depression and sadness
Nausea	Coughing and wheezing	Fear, annoyance, or stress
Light headed	Increased heart rate	Delight

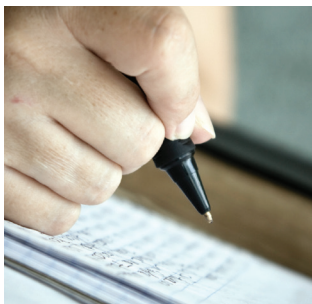
Factors that can affect a person's sensitivity to smells

- **Age:** In general, younger people are more sensitive to odors than older people.
- **Gender:** women are typically more sensitive to odors than men, and pregnant women are especially sensitive to odors.
- **Health condition:** People with asthma, emphysema or other respiratory diseases, chronic obstructive pulmonary disease (COPD), depression, multiple chemical sensitivity, or stress-induced illnesses are usually more sensitive to odors.
- **Smoking status:** Non-smokers are more sensitive to odors than smokers.
- **When someone last ate:** People with an empty stomach are typically more sensitive to odors than people who have recently eaten.
- **Time of day:** People are generally more sensitive to odors in the morning than in the evening.
- **Type of odor:** Some odors lessen a person's ability to detect or "smell" them; these types of odors seem to go away within just a few moments when they are actually still present.



What can I do if I am bothered by an odor?

- Keep a written log. Describe the odor, recording when (date and time) and where you notice it, how long it lasts, from what direction the wind is blowing, and when the odor is worst. This information may help you and air quality regulators identify the source of the odor.
- Report persistent odors to DEQ at 1-888-997-7888 (this is when information in your odor log will be helpful).
- When an odor occurs at predictable times, consider closing your windows and doors. Be sure to turn off heating, ventilation or air conditioning (HVAC) systems because these systems draw air from the outdoors and into your home.
- Consider leaving the area while the odor is present.



Odors in and around your home:

- Contain nuisance odors that you have control over (e.g., trash, compost bins, pesticide use, chemical storage, etc).
- Try to identify the source of the odor and remove it if possible. Opening windows and turning on fans is helpful for reducing indoor odors.

Conclusions

- Just because we sense an odor doesn't necessarily mean we are being exposed to toxic amounts of chemicals.
- Most odors do not pose a public health threat.
- There are a number of factors that can affect a person's sensitivity to odors, and some people may have health symptoms caused by the smell itself.
- When unpleasant odors in the environment frequently bother a person, it can worsen their quality of life.
- Each odor problem needs to be considered on its own, since each one can be very different from the next.



PUBLIC HEALTH DIVISION
Office of Environmental Public Health

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To report environmental odors, call the Oregon Department of Environmental Quality's statewide hotline:
Phone: 1-888-997-7888

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