



# Arkansas Department of Health (ADH) Fact Sheet

## Volatile Organic Compounds (VOCs) in Your Home

April 2013

### What are VOCs?

Volatile Organic Compounds (VOCs) are a large group of carbon-based chemicals that easily evaporate at room temperature. While most people can smell high levels of some VOCs, other VOCs have no odor. Odor does not indicate the level of risk from inhalation (or breathing) of this group of chemicals. There are thousands of different VOCs produced and used in our daily lives. Some common examples include:

- Acetone
- Benzene
- Ethylene glycol
- Formaldehyde
- Methylene chloride
- Naphthalene
- Perchloroethylene
- Toluene
- Xylene
- 1, 3-butadiene

### Where do VOCs come from?

VOCs are part of our daily lives. VOCs are very common. Many products we have in our homes release or “off-gas” VOCs. Some examples include:

#### Building Materials:

- Carpets and adhesives
- Composite wood products
- Paints
- Sealing caulks
- Solvents
- Upholstery fabrics
- Varnishes
- Vinyl floors

#### Home and Personal Care Products:

- Air fresheners
- Air cleaners that produce ozone
- Cleaning and disinfecting chemicals

- Cosmetics
- Fuel oil, gasoline
- Moth balls

#### Household Items and Activities:

- Cooking
- Dry-cleaning
- Newspapers
- Non-electric space heaters
- Smoking
- Stored paints and chemicals
- Outdoor grilling
- Wood burning stoves/fireplaces

### What are the health effects of VOC exposure?

Health effects depend on the type of VOC a person is exposed to, how long they were exposed, and how much they were exposed to. At higher levels over a long time, some VOCs can cause long-term health effects. A person who is exposed for a short period of time to very high levels could feel dizzy, sleepy, or confused.

### Common symptoms of exposure to VOCs include:

#### Short-Term (Acute) to high levels of VOCs

- Eye, nose and throat irritation
- Headaches
- Nausea/Vomiting
- Dizziness
- Worsening of asthma symptoms

#### Long-Term (Chronic) to high levels of VOCs

Increased risk of:

- Cancer
- Liver Damage
- Kidney Damage
- Central Nervous System Damage

Are some people at greater risk from VOC exposure than others?

Most people can be around low levels of VOCs without feeling health effects. However, persons with respiratory problems such as asthma, young children, the elderly, and persons with heightened sensitivity to chemicals may be more susceptible to irritation and illness from VOCs.

## Protecting yourself from VOCs

To limit exposure, you can:

- Use products that contain VOCs in open, well ventilated areas, so that the gases can evaporate into the air.
- Avoid direct contact with VOC products, oil, or sludge.
- If products containing VOCs are spilled on the skin, wash well with soap and water.
- Avoid smoking and avoid breathing secondhand smoke.

What can I do about VOCs that are in my home?

The most effective action is to remove the product that gives off VOCs. Most products containing VOCs will off-gas within a short period of time, although some will continue to give off VOCs for longer periods of time.

### **Some steps you can take to reduce your exposure to VOCs in the home are:**

1. Source control:
  - Remove or reduce the number of products in your home that give off VOCs.
  - Only purchase amounts of chemicals that you know you will use and carefully follow directions on product labels.
  - Remove unused chemicals from the home because stored chemicals in closed containers can sometimes “leak” and release VOCs into indoor air.

2. Ventilation and climate control:
  - Maximize air brought in from outside by opening doors and windows, use fans unless sensitive to VOCs.
  - If you are sensitive to VOC odors, set your air conditioner to a recirculation mode.
  - Keep both the temperature and relative humidity as low as possible or comfortable. Chemicals will off-gas more under warmer conditions with high humidity.
  - If you have a choice, perform renovations when the home is unoccupied or during seasons that will allow for additional ventilation.

## Where to find more information

- Notify the Arkansas Poison Control and Drug Information Center (PCC) at: (800) 222-1222 for **urgent** exposure questions.
- Notify the Arkansas Department of Health (ADH) at: (501) 661-2893 for **general** health questions.

This fact sheet adapted from the Minnesota Department of Health ‘Volatile Organic Compounds (VOCs) in Your Home’ fact sheet.