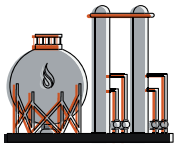


# IMPACTS OF VOCs

## Volatile Organic Compounds (VOCs) are:



chemically-reactive gasses emitted by natural and human-made processes.



odorless or detected by smell in paint, building materials, pine trees and pesticides.



harmful to human health in high concentrations (usually urban spaces).



often precursors to formation of air pollutants (ie. ground-level ozone or particulate matter).



some VOCs are classified as Hazardous Air Pollutants (HAPs) by the EPA, which are documented to be harmful to human health.

## VOCs come from:

### INDOOR AIR

Sources are prolific, including:



cooking



cleaning products



candles



outgassing from paint or furniture

### OUTDOOR AIR

Includes extracting and burning fossil fuels (coal, natural gas, or oil) for:



transportation and industrial use



burning of plants, wood, or animal waste



heavily concentrated in urban spaces



agricultural processes such as pesticide application

## How can I be exposed to VOCs?

VOCs come from the **air**.

People exposed to heavy vehicle traffic, landfills, industrial facilities, concentrated animal feeding operations, or sites that use pesticides or cleaning products are at greater risk.



They are often emitted from same sources as other harmful pollutants such as nitrogen oxides and particulate matter.

VOCs are the main ingredient in ozone pollution (smog) 

# IMPACTS OF VOCs

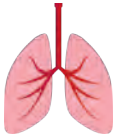
## Health Effects of VOC Exposure

Children, seniors, and people with underlying respiratory issues (ie. asthma) are vulnerable to health risks from VOC exposure.

### SHORT TERM



irritation of eyes, nose, and throat



shortness of breath



asthma attacks

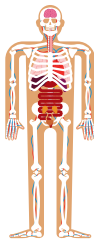


nausea



headache, dizziness, or impaired memory

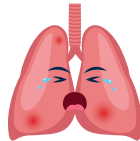
### LONG TERM



damage to the liver, kidneys, and central nervous system



chronic headaches



impaired lung function, including respiratory disease



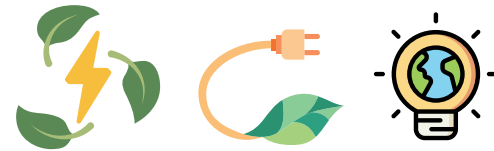
various cancers

## How can I protect myself and my loved ones from VOCs?

Only use household cleaning products, pesticides, and other materials that emit VOCs in spaces with abundant ventilation.



Reduce unnecessary at-home energy consumption when possible.



Ensure your home, school, or place of work has proper ventilation.

