

## Water Pollution

Water related hazards can affect both surface and drinking water. Pollutants from urban, industrial, agricultural, and domestic areas can easily contaminate surface water and drinking water if not properly treated.

**Pollutants Include:** fertilizers from lawns/gardens/agriculture, mercury from power plants, herbicides/insecticides, oils/chemicals from roadway runoff, faulty septic systems, and run-off from sewage treatment plants.

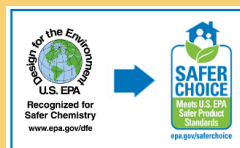
**Health Effects:** damage to nervous system, birth defects, liver damage, vascular disorder, dental damage, cancer, and even death.

Pollutant	Source	Health Effects
Fertilizers	Lawns/garden/agriculture	Damage to nervous system, birth defects, liver damage, cancer, death
Mercury	Power plants/industry	Deterioration of nervous system, impairs sight, hearing, speech, corrosion of skin/mucus membranes
Pesticides/Herbicides	Residential and commercial use	Damage to nervous system, cancer, reproductive & endocrine system damage
Oils/chemical/auto chemicals	Spills, roadway runoff	Nervous system damage, cancer
Septic sewage/sewage (bacterial contamination)	Faulty septic systems, sewage treatment plants	Viral, bacterial infections, hepatitis, liver damage, death

## Things you can do to prevent exposure to Environmental Hazards

To reduce exposure to household chemicals there are several hazardous cleaning products you can replace with natural and organic products.

The EPA has started a program that identifies products that are tested to be safer for people and the environment. Just look for the Safer Choice label the next time you buy products.



Usually the most effective way to improve indoor air quality is to eliminate individual sources of pollution or to reduce their emissions. Another approach to lowering the concentrations of indoor air pollutants in your home is to increase the amount of outdoor air coming indoors. Opening windows, doors and updating ventilation mechanisms can really improve the quality of air circulating in your home. Outdoor air quality is a little bit tougher to combat, but it is always a good idea to check local air quality reports and to limit outdoor activities when the air quality is poor.

Informing yourself on the quality of water your drinking can be a great advantage to avoiding harmful effects of hazards. Looking at the Consumer Confidence Reports provided by EPA will give you annual drinking water quality reports from your local water supplier.

For more information on environmental hazards and health effects you can visit:

**The United States Environmental Protection Agency:** [www.epa.gov](http://www.epa.gov)

**The Centers for Disease Control and Prevention:** [www.cdc.gov](http://www.cdc.gov)

Want more information?  
Visit  
<https://epa.soboba-nsn.gov/contact-us>

## Health Impacts from Environmental Hazards



Health hazard



Serious health hazard



Hazardous to the environment

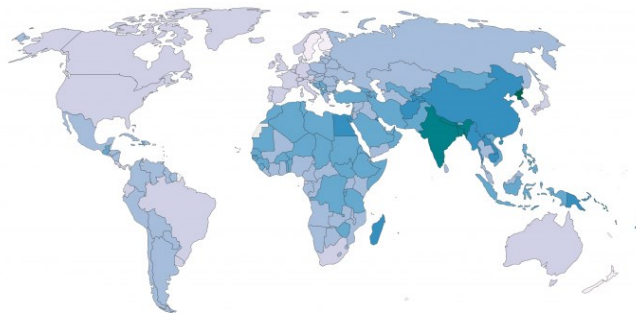
Provided by: **The Soboba Tribal Environmental Department**



# Environmental Hazards

Environmental hazards are any substance, state, or event which has the potential to threaten the surrounding natural environment or adversely affect people's health including pollution. Environmental hazards can exist both indoors and outdoors and can cause life threatening problems to human health. The Centers for Disease Control and Prevention (CDC) estimates that 1 in 13 people have asthma and that a leading cause for this disease is air pollution.

Share of deaths from air pollution, 2017  
Share of deaths which are attributed to total air pollution – outdoor and indoor – as a risk factor.



No data 0% 2.5% 5% 7.5% 10% 12.5% 15% 17.5%

Source: IHME, Global Burden of Disease OurWorldInData.org/air-pollution • CC BY

The World Health Organization (WHO) estimated that out of the 43 million deaths, 12.6 million or 22.7% of deaths were attributed to the environment. The first step in preventing environmentally related health effects is educating ourselves on common environmental hazards, their harmful effects, and how to prevent exposure.

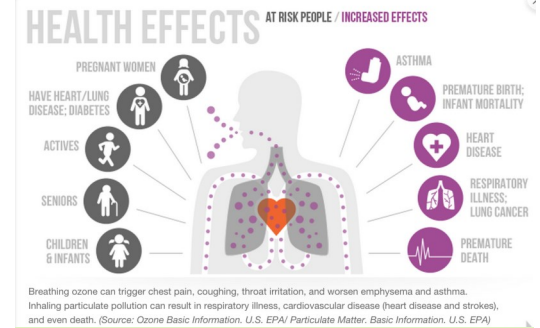
## Types of Hazards and their Health Effects

Many of the everyday products we use in our homes can be hazardous to people and the environment. These products can be especially dangerous when improperly used or when leftover product is thrown away.

### Chemical Hazards

Product	Chemical	Health Effects
Bleach Cleaners	Calcium hypochlorite (NaOCl)	Respiratory irritation, circulatory system collapse, pain, trouble breathing
Glass Cleaners	Butoxyethanol (BuOC <sub>2</sub> H <sub>4</sub> OH) Alcohol (C <sub>2</sub> H <sub>5</sub> OH)	Rashes, nausea, headache, kidney failure, liver disease
Drain Cleaners	Petroleum distillates (C <sub>n</sub> H <sub>2n+2</sub> )	Headache, dizziness, eye/stomach irritation, cardiac arrest
Toilet Cleaners	Hydrochloric acid (HCl)	Chemical burns, eye damage, airway constriction, nausea/vomiting, death
Pesticides	Ammonia (NH <sub>3</sub> ), arsenic (As), benzene (C <sub>6</sub> H <sub>6</sub> ), chlorine (Cl), dioxins (C <sub>4</sub> H <sub>4</sub> O <sub>2</sub> ), etc.	Irritation to skin/eyes, effects to nervous system, birth defects, & cancer
Herbicides	2,4-dichlorophenoxyacetic acid (C <sub>8</sub> H <sub>6</sub> Cl <sub>2</sub> O <sub>3</sub> )	Irritation to skin/eyes, effects to nervous system, birth defects, & cancer

## Air Pollution



Indoor & outdoor air pollution is one of the leading environmental hazards that leads to health complications. The table below contains some of the most common pollutants and their effects on health.

Chemical	Source	Health Effects
CO, CO <sub>2</sub> , NO <sub>x</sub>	Vehicle, industry, gas heaters, gas appliances, wood- and gas-burning fireplaces, leaking chimneys and furnaces, tobacco smoke, automobile exhaust in attached garages	Eye, nose, and throat irritation, impaired lung function and respiratory function, bronchitis, lung cancer, flu-like symptoms.
Volatile Organic Compounds	Paints, solvents, wood preservatives, aerosol sprays, cleaners and disinfectants, moth repellents, air fresheners, hobby supplies, and dry cleaned clothes	Eye, nose, and throat irritation, headaches, loss of coordination; nausea, damage to kidney and central nervous system. Some cause cancer in animals. Some may cause cancer in humans.
Radon	Local geology, soil, water	Lung cancer, possibility of stomach cancer