

Breathing, Living and Learning in the Akwesasne Community:

*Tools to Improve Indoor
Air Quality in the Home*

Handbook

Brought to you by the:
Saint Regis Mohawk Tribe
Environment Division

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PURPOSE

On average people spend about 65% of their time in their homes, 25% at their jobs and the rest of time in various places-indoor and outdoor. Because so much time is spent indoors, it is important to create a clean air environment to maintain healthy lives.

All homes contain sources that can contaminate their air. Learning how to reduce these sources is key in preventing unhealthful exposures to family and friends. Improving indoor air quality (IAQ) is important for susceptible populations, such as elderly, asthmatics and individuals with chronic respiratory illnesses.

The purpose of this handbook is to offer tools that will help create a cleaner air environment in the homes of the Akwesasne community. Akwesasne has had problems with IAQ because of the cold, damp and industrial area in which this community is located.

This handbook will cover indoor air quality issues such as Particulate Matter (dust/aerosols), Carbon Monoxide (CO), Carbon Dioxide (CO₂), Temperature (T), Volatile Organic Compounds (VOCs) and Relative Humidity (RH).

When it comes to IAQ there are no standards per se. Some people are more sensitive than others. There is no value for how much dust can be in a home or how much smoke is too much smoke.

CARBON MONOXIDE

Carbon monoxide (CO) is a deadly, colorless, odorless, poisonous gas. It is produced by the incomplete burning of various fuels, including coal, wood, charcoal, oil, kerosene, propane, and natural gas. Products and equipment powered by internal combustion engines such as portable generators, cars, lawn mowers and power washers also produce CO.

Because CO is odorless, colorless and otherwise undetectable to the human senses, people may not know that they are being exposed. The initial symptoms of low to moderate CO poisoning are similar to the flu (but without the fever). They include:

- Headache
- Fatigue
- Shortness of breath
- Nausea
- Dizziness

High level CO poisoning results in progressively more severe symptoms, including:

- Mental confusion
- Vomiting
- Loss of muscular coordination
- Loss of consciousness
- Ultimately death

Symptom severity is related to both the CO level and the duration of exposure. For slowly developing residential CO problems, occupants and/or physicians can mistake mild to moderate CO poisoning symptoms for the flu, which sometimes results in tragic deaths. For rapidly developing, high level CO exposures (e.g., associated with use of generators in residential spaces), victims can rapidly become mentally confused, and can lose muscle control without having first experienced milder symptoms; they will likely die if not rescued.

How can I prevent CO poisoning?

Make sure appliances are installed and operated according to the manufacturer's instructions. Most appliances should be installed by qualified professionals. Have the heating system professionally inspected and serviced annually to ensure proper operation. The inspector should also check chimneys and flues for blockages, corrosion, partial and complete disconnections, and loose connections.

Always be sure the air-to-fuel ratio is good.

Never service fuel-burning appliances without proper knowledge, skill and tools. Always refer to the owner's manual when performing minor adjustments or servicing fuel-burning equipment.

Never operate a portable generator or any other gasoline engine-powered tool either in or near an enclosed space such as a garage, house, or other building. Even with open doors and windows, these spaces can trap CO and allow it to quickly build to lethal levels.

Install a CO alarm that meets the requirements of the current UL 2034 safety standard. A CO alarm can provide some added protection, but it is no substitute for proper use and upkeep of appliances that can produce CO. Install a CO alarm in the hallway near every separate sleeping area of the home. Make sure the alarm cannot be covered up by furniture or draperies. Make sure to test batteries to be sure it's working.

If you have a pellet stove and store pellets:

1. Don't store any type of pellets in your basement or any room attached to your home.
2. Make sure the room where the pellets are stored is ventilated either mechanically or by windows.
3. Make sure that the room the pellets is kept in has a digital reading carbon monoxide detector.

4. Put up signs/placards: DANGER - RISK OF CARBON MONOXIDE POISONING. There is a danger to life from odorless carbon monoxide and lack of oxygen.

Never use portable fuel-burning camping equipment inside a home, garage, and vehicle or tent unless it is specifically designed for use in an enclosed space and provides instructions for safe use in an enclosed area.

Never burn charcoal inside a home, garage, vehicle, or tent

Never leave a car running in an attached garage, even with the garage door open.

Never use gas appliances such as ranges, ovens, or clothes dryers to heat your home.

Never operate unvented fuel-burning appliances in any room where people are sleeping.

Do not cover the bottom of natural gas or propane ovens with aluminum foil. Doing so blocks the combustion air flow through the appliance and can produce CO.

During home renovations, ensure that appliance vents and chimneys are not blocked by tarps or debris. Make sure appliances are in proper working order when renovations are complete.

If the source of the CO is determined to be a malfunctioning appliance, DO NOT operate that appliance until it has been properly serviced by trained personnel or replaced.



What CO level is dangerous to my health?

The health effects of CO depend on the CO concentration and length of exposure, as well as each individual's health condition. CO concentration is measured in parts per million (ppm). Most people will not experience any symptoms from prolonged exposure to CO levels of approximately 1 to 70 ppm but some heart patients might experience an increase in chest pain and people with respiratory issues may have issues at concentrations as low as 10 ppm. As CO levels increase and remain above 70 ppm, symptoms become more noticeable and can include headache, fatigue and nausea. At sustained CO concentrations above 150 to 200 ppm, disorientation, unconsciousness, and death are possible.

What should I do if I am experiencing symptoms of CO poisoning and do not have a CO alarm, or my CO alarm is not going off?

If you think you are experiencing any of the symptoms of CO poisoning, get outside to fresh air immediately. Leave the home and call your fire department to report your symptoms from a neighbor's home. You could lose consciousness and die if you stay in the home. It is also important to contact a doctor immediately for a proper diagnosis. Tell your doctor that you suspect CO poisoning is causing your problems. Prompt medical attention is important if you are experiencing any symptoms of CO poisoning. If the doctor confirms CO poisoning, make sure a qualified service person checks the appliances for proper operation before reusing them.

Are CO alarms reliable?

CO alarms are designed to alarm before potentially life-threatening levels of CO are reached. Which means if there is low level of CO in your home the alarm will not sound. If you have gas appliances it might be better to get a digital reading CO monitor. That way you know that if you have any reading above 1 ppm you may potentially have a problem somewhere and can take care of it before it gets deadly. CO detectors should be replaced every 5-6 years. Once a CO detector has been exposed to CO and alarm goes off, it needs to be replaced.

Carbon Monoxide The Silent Killer

Every CO detector is different. Some only alarm if concentrations get up to a certain level usually around 70 PPM. Some of the digital detectors will show lower amounts but not below 30 ppm. There is also a difference between a detector and a monitor. A monitor will show you concentrations down to 10 PPM levels and if you have someone in the household that is susceptible to health effects from CO exposure like elderly, pregnant women, young infants, and those with certain pre-existing health problems (e.g., those with cardiac or lung, including asthma, conditions) you may want to consider getting a monitor rather than a detector.

How should I install a CO Alarm?

CO alarms should be installed according to the manufacturer's instructions. It is recommended that one CO alarm be installed in the hallway outside the bedrooms in each separate sleeping area of the home. CO alarms may also be installed into a plug-in receptacle or high on the wall. Hard wired or plug-in CO alarms should have battery backup. Avoid locations that are near heating vents or that can be covered by furniture or draperies or near places of high humidity like bathrooms. It is not recommend installing CO alarms in kitchens or above fuel-burning appliances.

What should you do when the CO alarm sounds?



It is warning you of a potentially deadly hazard.

Never ignore an alarming CO alarm!

If the alarm signal sounds do not try to find the source of the CO:

1. Immediately move outside to fresh air.
2. Call your emergency services, fire department, or 911.
3. After calling 911, do a head count to check that all persons are accounted for. DO NOT reenter the premises until the emergency services responders have given you permission. You could lose consciousness and die if you go in the home.

If the source of the CO is determined to be a malfunctioning appliance, DO NOT operate that appliance until it has been properly serviced by trained personnel or replaced.

If authorities allow you to return to your home, and your alarm reactivates within a 24 hour period, repeat steps 1, 2 and 3 and call a qualified appliance technician to investigate for sources of CO from all fuel burning equipment and appliances. Inspect for proper operation of this equipment. If problems are identified during this inspection, have the equipment serviced or replaced immediately.

Make sure that motor vehicles are not, and have not been, operating in an attached garage or adjacent to the residence.

Should CO alarms be used in motor homes and other recreational vehicles?

CO alarms are available for boats and recreational vehicles and should be used. The Recreation Vehicle Industry Association requires CO alarms in motor homes and in trailers.



PARTICULATE MATTER

"*Particulate matter*," also known as particle pollution or PM, is a complex mixture of extremely small particles and liquid droplets. Aerosols are mixtures of PM suspended in air. PM is made up of a number of components, including soil or dust particles, acids (such as nitrates and sulfates), organic chemicals and metals.

There are two types of PM: *course and fine*. The size of the particle defines how far into the lungs the particle goes and how much damage it can do.

- "*Inhalable coarse particles*" such as those found near roadways and dusty industries, are larger than 2.5 micrometers and smaller than 10 micrometers in diameter which is about one-thirtieth to one-seventh the size of a hair
- "*Fine particles*" such as those found in smoke and haze, are 2.5 micrometers in diameter and smaller. These particles can be directly emitted from sources such as forest fires, or they can form when gases emitted from power plants, industries and automobiles react in the air.

PM can come from lots of sources in the home. Cooking is one of the main sources of PM. Other sources are tobacco smoke, burning candles, oil lamps, fireplaces, other fuel burning heaters (kerosene, wood, and coal), and animal dander, walking across carpet and cleaning.

VENTILATION

Cooking e.g. frying, sautéing and broiling are big sources of PM in a home. One thing that can be done to minimize the exposure to your family is to make sure you have an over the stove vent fan and to use it. These can come in many different forms for many different kitchen types.

There are two different types of over the stove vent fans: *Recirculation* and *outside venting*.

Recirculation vent hoods are those hoods that capture the steam and grease in filters and the "cleaned" air is put back into your home. The filters need to be cleaned in order to optimize the filtration of the air and it does not remove any gases like carbon monoxide (if you have a natural gas or propane stove).

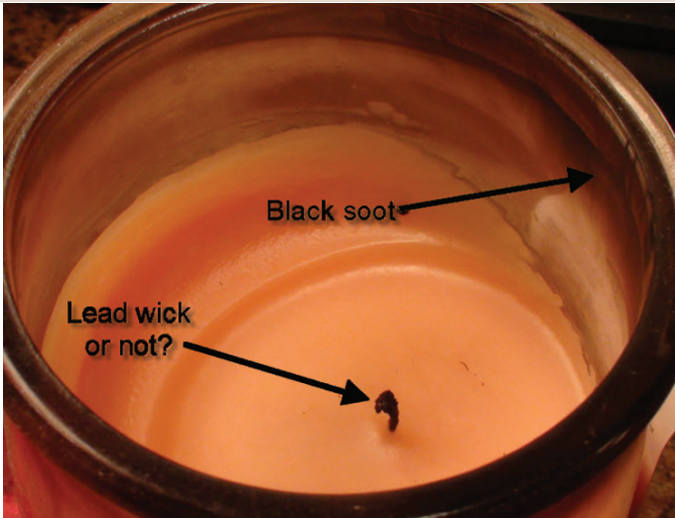


Outside vent hoods are the just that, they exhaust to the outside. They still use a filter to trap grease and steam but take the air and vent it to the outside.

Vent hoods can come in wall mount (under cabinets or on the wall), over-the-range microwave or downdraft. Any of these can be either recirculation or outside venting. Just remember that outside venting offers the most protection.

CANDLES/INCENSE

Some candles may have lead core wicks. Although lead core wicks were banned in the US in 2003 there may be some old candles laying around that may have been made or purchased before 2003. If your candle has a metal-core wick it may be made of zinc or tin which has been shown to be safe and non-toxic.



Both candles and incense emit soot/smoke. Soot/smoke from candles/incense although seems like a small amount can be dangerous to your health. The particles are small and can travel deep into the lungs. To make matters worse candles/incense can release compounds that are known carcinogens (cause cancer), neurotoxins (cause nerve damage) and reproductive toxins.

SMOKING - First, Second & Third Hand

Smoking has since the 70's been part of a concern that it affects your health even when you are not the one smoking.

First hand smoke: The inhalation of smoke of burning tobacco encased in cigarettes, pipes and cigars.



Second hand smoke: The environmental tobacco smoke that is inhaled involuntarily or passively by someone who is not smoking.



Third hand smoke: A term used to describe the gases and small particles in cigarette smoke that are deposited on every surface they come in contact with. From the smokers' hair and clothing, to the environment the cigarette was smoked in. These toxic particles remain long after the cigarette has been put out and any second hand has been removed from the area.

Recognition of second and third hand smoke exposure goes back to the saying that if you can smell it you are being exposed to it. It is important to note that even if you don't smoke around anyone in the house or car the second and third hand exposure will still occur.

ANIMALS

When it comes to animals, e.g. dogs, cats, hamsters, ferrets, lizards, fish, birds and any other pets, the one thing we have to remember is that they need to be cared for and living areas cleaned.

Furry animals like dogs, cats, hamsters and ferrets have fur but that's not the reason people have allergies from them. The skin releases dander which is like dandruff and that's what triggers an allergy or an asthma attack. Keeping the skin from drying out is the most important thing to do to keep the dander down to a minimum.

Birds have a couple of different issues. The first being feathers. Feathers can carry dust and mites and trigger an allergy or asthma attack. The second being their feces.

Exposure to bird feces can make you sick with an illness called *psittacosis*. The symptoms of this are those like pneumonia but mimic the symptoms of *typhoid fever* with high fevers, diarrhea and conjunctivitis. It can easily be treated with antibiotics.



Pets in water also have an effect on IAQ. Most tanks that house fish or turtles need to be aerated. The process of aerating the water and evaporation releases small water particles. These particles can collect on surfaces close to the tank making it a perfect site for mold growth. The best thing to do is to clean around your tank and inspect it regularly to be sure that water is not building up anywhere and that it is dry.

Reptiles: lizards, frogs and turtles carry salmonella in their intestinal tract. You can become infected if you do not wash your hands after handling them. When cleaning cages, make sure you wash all equipment, food and water bowls with hot soapy water and disinfect with chlorhexidine or household bleach solution and rinse with clean water before using. Also, households with children less than 5, pregnant women, elderly or individuals with a compromised immune system should avoid all contact with the reptile and its living areas.

Walking: any movement in a house is going to make dust airborne. The amount of airborne dust from walking will depend on whether you have carpets or not. You cannot eliminate dust from your home but you can minimize it.

Vacuuming furniture, beds and carpets helps get the dust out, similarly vacuuming or mopping hardwood floors also reduces the amount of dust. Taking off shoes at the front door helps reduce dust as well as other outdoor contaminants from getting in the house.

CARBON DIOXIDE

Carbon dioxide (CO₂) is a relatively easy to measure surrogate for indoor pollutants emitted by humans, and correlates with human metabolic activity.

Carbon dioxide at levels that are unusually high indoors may cause occupants to grow drowsy, to get headaches, or to function at lower activity levels. Humans are the main indoor source of carbon dioxide in most buildings. Indoor levels are an indicator of the adequacy of outdoor air ventilation relative to indoor occupant density and metabolic activity.

You can ventilate your home naturally by opening windows and doors. Also, placing fans in windows will help bring fresh air in and take old stale air out. Another way is to install a whole house ventilation system. These can be costly and need regular maintenance. A heating, ventilation and air conditioning system can also reduce your carbon dioxide levels but you need to be sure it is working properly and that it is maintained by a certified contractor at least every 2 years.

Carbon dioxide is not harmful in the concentrations normally observed. The outside concentration is 400 PPM. In homes we have seen values up to 2,000 PPM. At values up to 10,000 PPM you may feel drowsy. Immediately dangerous to life and health concentration for CO₂ is 40,000 PPM.

So if you are feeling drowsy open a window or door and get some fresh air flowing.

TEMPERATURE

Temperature—the most basic of indoor comfort considerations. And the most important without proper temperature control in your home, your family doesn't have a chance at total indoor comfort.

There are 2 basic types of thermostats: basic and programmable. They can be wired, wireless, touch screen and/or Wi-Fi.

Just remember whatever you set your thermostat at your furnace or air conditioner has to work hard to maintain the temperature. With that remember that if it is 10°F outside and your thermostat is set at 70°F, your furnace must work to keep your home 60° warmer than outside.

Lowering your temperature in winter can save you up 3% on your heating bill for every 1°. So potentially turning your temperature down to 66°F can save you a potential 12%. It's also the same for summer. The closer you set your temperature to the outside temperature the less your air conditioner has to work, therefore saving you money.



RELATIVE HUMIDITY

Humidity is something we hear about daily in weather reports. Humidity is to blame for that muggy, steam-room feeling you experience on certain summer days. Humidity can be measured in several ways, but relative humidity is the most common.

For climate control in buildings using HVAC systems, the key is to maintain the relative humidity at a comfortable range—low enough to be comfortable but high enough to avoid problems associated with very dry air.

When the temperature is high and the relative humidity is low, evaporation of water is rapid; soil dries, wet clothes hung on a line or rack dry quickly, and perspiration readily evaporates from the skin. Wooden furniture can shrink, causing the paint that covers these surfaces to fracture.

When the temperature is high and the relative humidity is high, evaporation of water is slow. When relative humidity approaches 100 percent, condensation can occur on surfaces, leading to problems with mold, corrosion, decay, and other moisture-related deterioration.



HUMIDIFIER/DEHUMIDIFIER

Humidifier: a device that increases humidity (moisture) in a single room or an entire building. In the home, point-of-use humidifiers are commonly used to humidify a single room, while whole-house or furnace humidifiers, which connect to a home's HVAC system, provide humidity to the entire house.

Dehumidifier: is generally a household appliance which reduces the level of humidity in the air, usually for health or comfort reasons, or to eliminate musty odor.

Humidifiers and dehumidifiers also need to be maintained and cleaned. As well the RH should be monitored because different times of the year a humidifier may need to be used then other times a dehumidifier may have to be used.

HVAC DESIGN

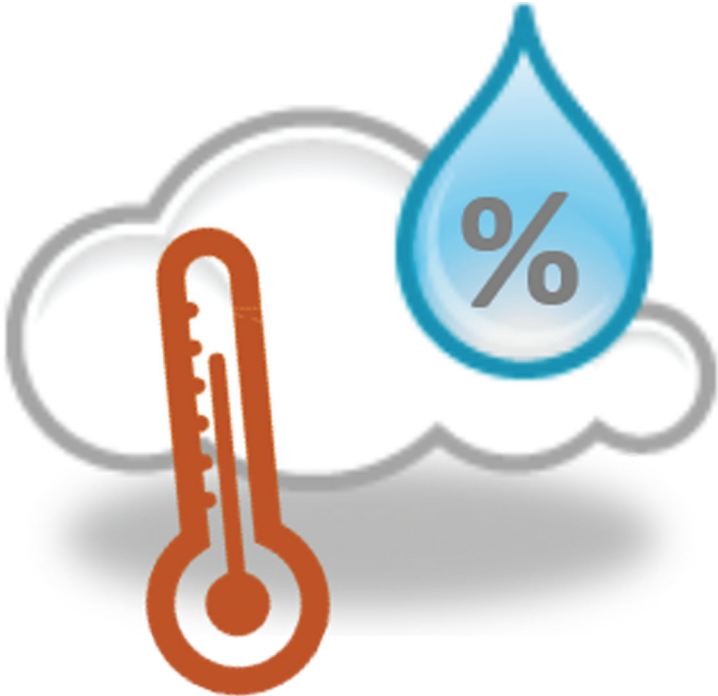
The main purposes of a Heating, Ventilation, and Air-Conditioning (HVAC) system are to help maintain good indoor air quality through adequate ventilation with filtration and provide thermal comfort.



Relative humidity has a big effect on comfort and some people are very sensitive to it.

A relative humidity chart is below:

<i>Outdoor Temperature Fahrenheit</i>	<i>Recommended Indoor Relative Humidity</i>
+40 degrees	45%
+30 degrees	40%
+20 degrees	35%
+10 degrees	30%
0 degrees	25%
-10 degrees	20%
-20 degrees	15%



MOLDS

Mold is an organism that is present in most places, outdoors and indoors. It is a type of fungus that works to break down dead material and return nutrients to the environment.

Mold grows by digesting plant or animal matter, such as leaves, wood, paper, dirt and food and spreads by releasing tiny, lightweight spores that travel through the air in search of water. Mold grows quickly in moist dark spaces, such as basements, garbage cans and piles of rotting leaves.

All of us are exposed to some mold every day with no bad effects. We may breathe in mold spores that are present in the air or eat foods in which mold has begun to grow.

It is impossible to get rid of all mold and mold spores. The way to control the amount of mold in your home is to control moisture. Mold will not grow if there is no moisture. Stop the water, stop the mold.

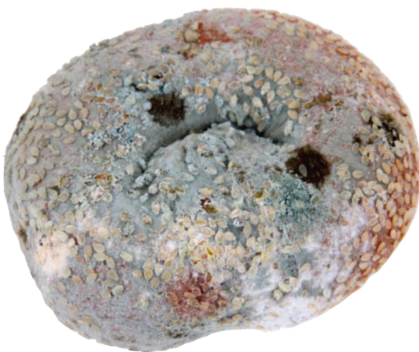
The best way to clean up the mold is with warm soapy water. Clean the area thoroughly and be sure to completely dry after.



If you or someone in your household is sensitive to mold or has asthma be sure to take precautions so it doesn't spread to the whole house when cleaning. You can do this by putting up a plastic barrier between the moldy area and the rest of the house.

There are some items that just can't be cleaned. If you have mold/mildew on clothes, carpets and/or furniture, these items are harder to clean. Depending on the damage you may have to get rid of the items or find a specialist that can clean the items up for you.

Respirators or masks can also be worn as protection for the person cleaning up the mold. Even if they are not sensitive to it. Exposure to allergens like mold can create an allergy in someone.



VOLATILE ORGANIC COMPOUNDS

Volatile organic compounds (VOCs) are emitted as gases from certain solids or liquids. VOCs include a variety of chemicals, some of which may have short and long-term adverse health effects. VOCs can smell both pleasant and unpleasant.

Some examples include: sealants and coatings, paints, varnishes, cleaning agents, new furnishings, air fresheners and other scented products as well as perfumes, shampoos and other personal products.

Other sources of VOCs that can get into the home are from vehicles, waste/garbage receptacles, pesticides, sewer odors and smoking. There are some things you can do about exposure to these sources. You can buy products that come in low-VOCs or no-VOCs.

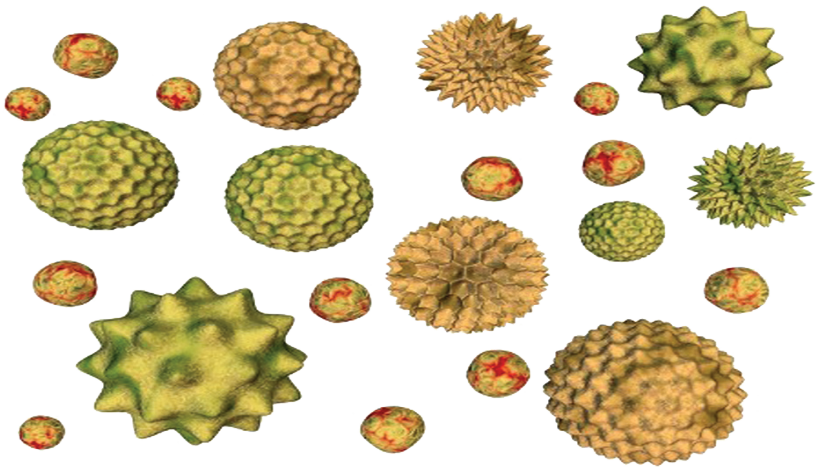
Or instead of using a chemical you can use a natural alternative like in summer putting out baby powder around your home stops ants from outside coming in. It coats the feet of the leader ant leaving no scent to follow. There are many natural alternatives available on the internet.



Ozone is produced by ultraviolet light from the Sun hitting the Earth's atmosphere (especially in the ozone layer), lightning, certain high-voltage electric devices (such as air ionizers or purifiers), and as a by-product of other types of pollution.

Breathing ground-level ozone can trigger a variety of health problems including chest pain, coughing, throat irritation and congestion. It can also worsen bronchitis, emphysema and asthma. It is not only unhealthy but can damage crops and vegetation and reduces tree seedling survivability and growth.

Ionizing (or ionic) air purifiers are one of the sources for ozone in a home. Ionizing air purifiers are not recommended by most IAQ specialists. Before investing in any treatment or air-cleaning product, most allergy experts recommend removing the allergen, if possible, whether that involves rigorous cleaning and disinfecting or removing the source completely.



RADON

Radon is an invisible, radioactive atomic gas that results from the radioactive decay of radium, which may be found in rock formations beneath buildings or in certain building materials themselves.

Radon is probably the most pervasive serious hazard for indoor air in the United States and Europe, probably responsible for tens of thousands of deaths from lung cancer each year.

Testing for radon is relatively easy and can be done by the Air Quality Program call (518)358-5937, testing is the only way you will know if you have radon in your home. The fix is also relatively easy and can usually be done for under \$500 dollars.

Many of the homes in Akwesasne were tested and only a few were over the action level set by the Environmental Protection Agency.

The homes that should definitely be tested are homes with dirt basements. Because radon comes from under the soil it can seep up into a home easier when it is not finished.

Radon should be tested for when changes are made to the home, changes in the ground underneath and when you purchase a home. Radon can also be found in water, but only if your water supply source is ground water. Surface water, like the SRMT's water supply, does not require testing.



THINGS YOU CAN DO

Houseplants together with the medium in which they are grown can reduce components of indoor air pollution, particularly VOC such as benzene, toluene and xylene. Plants remove CO₂ and release oxygen and water, although the quantitative impact for house plants is small.

Use natural cleaners rather than chemicals.

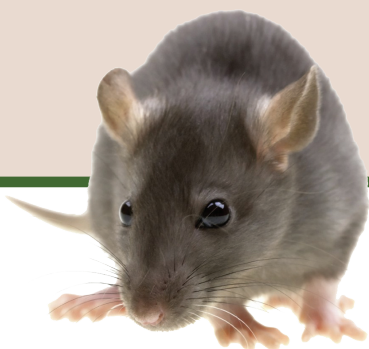
Here is a list of natural products and what they can be used for:

Antimicrobials

<i>Instead of:</i>	<i>Use:</i>
Fantastik, Lysol, Clorox Wipes, Pine-Sol, Clorox or 409	Vinegar: Use white distilled vinegar to kill mold, bacteria, and germs.
Active ingredients: Alkyl dimethyl benzyl ammonium chloride, hydrochloric acid, alkyl alcohol ethoxylates, sodium hypochlorite	Lemon juice: Use equal parts water and lemon juice in a spray bottle (spot test first).
Possible effects: Eye, skin, nose, throat, respiratory tract, mouth, and stomach irritant from contact or inhalation	Baking Soda: Use on children's toys and also as a deodorizer for drains, trash cans, pets, refrigerators, and upholstery

Rodenticides

<i>Instead Of:</i>	<i>Use:</i>
Victor Fast Kill, D-Con, Terads ₃ , Blox or Just One Bite bar	Shake Away: A powder containing predator's urine to repel animals. Purchase at www.critterrepellent.com
Active Ingredients: Bromethalin, brodifacoum, cholecalciferol, bromadiolone	Mouse/Rat Traps
Possible Effects: Harmful if swallowed, causing nausea, lethargy, loss of appetite, diarrhea, bleeding, impairment to blood clotting	





Insecticides

Instead Of:	Use:
Raid, Terro Ant Killer, Mothballs or OFF!	Baby powder/chalk: Draw a chalk line or sprinkle baby powder across the spot where ants are entering the house.
Active Ingredients: Sumithrin, MGK, permethrin, pyrethins, piperonyl butoxide, abamectin, naphthalene, DEET	Vinegar: Use equal parts water and white vinegar to wipe down counters and cupboards where ants were seen. Repeat throughout the day.
Possible Effects: Eye and skin irritation, nasal and respiratory irritation from inhalation, incoordination, tremors, aspiration, nausea, dizziness	Borax: Mix equal parts Borax and either syrup or jelly, then place where ants will find it. Once consumed, the borax will damage the ants' digestive system and outer skeletons, resulting in death.

Herbicides



Instead Of:

Use:

Weed-B-Gone,
Cleanwater Blue, Tupersan,
Roundup, Miracle Grow

Vinegar: Fill a spray bottle with vinegar and generously spray weeds. Vinegar will kill other plants too, so confine the spray to weeds only.

Active Ingredients:

Dimethylamine salt, copper sulfate pentahydrate, siduron, glyphosate, isopropylamine salt, trifluralin

FoxFarm-Don't Bug Me:

Contains pyrethins from Chrysanthemum flowers and can be applied up to the day of harvest. Aphids, whiteflies and other insects are killed on contact. Purchase at www.eshopsale.com

Possible Effects:

Eye and skin irritant, abdominal pain and nausea from ingestion

Boiling Water:

Pour a pot of boiling water over weeds, using a few treatments in order to scald the entire root. This works especially well for weeds in sidewalk and driveway cracks.

Pet Products

<i>Instead Of:</i>	<i>Use:</i>
<p>Adams Tick & Flea Shampoo, Hartz UltraGuard, Flea & Tick Collar, Frontline, Flys Off, K9-Advantix</p>	<p>Salt: Salt dehydrates fleas and eggs. Apply once a week for a month in order to eradicate infestations</p>
<p>Active Ingredients: Piperonyl butoxide, phenothrin, propoxur, fipronil, butoxy polypropylene glycol, permethrin</p>	<p>Garlic: Add garlic to your pet's food. When the fleas bite, they won't like the taste of garlic from the animal's skin and they will move on.</p>
<p>Possible Effects: Eye, skin and respiratory irritant, abdominal pain, nausea, diarrhea</p>	<p>Lavender: Lavender oil repels fleas, mosquitoes and ticks but does not kill them. Use products containing lavender essential oils as a preventative measure.</p>





For more information
please contact:

Saint Regis Mohawk Tribe
Environment Division

518-358-5937



Helping Build A Better Tomorrow