TOXINS IN THE GARAGE

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SIMPLE TRUTHS
WHITE PAPER RESEARCH SUPPLEMENT

SUBJECT: Toxic Issues outside the home and garage – oil/grease

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What Is Stored in Your Garage and Basement?

MAD AS A HATTER

The Phrase Finder
http://www.phrases.org.uk/meanings/mad-as-a-hatter.html

Mercury used to be used in the making of hats. This was known to have affected the nervous systems of hatters, causing them to tremble and appear insane. A neurotoxicologist correspondent informs me that "Mercury exposure can cause aggressiveness, mood swings, and anti-social behaviour.", so that derivation is certainly plausible - although there's only that circumstantial evidence to support it.

The use of mercury compounds in 19th century hat making and the resulting effects are well-established - mercury poisoning is still known today as 'Mad Hatter's disease'. That could be enough to convince us that this is the source of the phrase. The circumstantial evidence is rather against the millinery origin though and, beyond the fact that hatters often suffered trembling fits, there's little to link hat making to the coining of 'as mad as a hatter'.

What Is Stored in Your Garage and Basement?
http://createyourhealthyhome.com/blog/2007/05/what-is-stored-in-your-garage-and.html

Create Your Healthy Home Blog

Chemical solvents, gasoline, paints, turpentine, and pesticides should not be stored in your living space. Once a container is opened, it is not possible to totally re-seal it. Vapors from inside the container can pass into room air.

A law of physics is that gaseous molecules spread from areas of higher concentration to areas of lower concentration until there is equalization. Thus, if you have multiple re-sealed cans of paint in your basement, paint molecules will be found throughout the basement, as well as potentially upstairs in lower concentrations.

If you absolutely need to retain a few cans of paint for touch-up, try this: Take the lid off a can of paint. Place a layer of plastic wrap over the top of the can. Replace the lid and tamp it down. Store the can of paint upside down.

If you absolutely need to store toxins in the garage, seal off openings between the garage and the house. If
there is a door from the garage to the house, add weather seal to minimize air leakage at the door.

A better plan, of course, is to avoid storing toxins at your home. For just about every product, there are healthier choices.

Carbon Monoxide Poisoning
Wikipedia

Carbon monoxide poisoning occurs after enough inhalation of carbon monoxide (CO). Carbon monoxide is a toxic gas, but, being colorless, odorless, tasteless, and non-irritating, it is very difficult for people to detect. Carbon monoxide is a product of combustion of organic matter with insufficient oxygen supply and is often produced in domestic or industrial settings by motor vehicles and other gasoline-powered tools, heaters, and cooking equipment. Exposures at 100 ppm or greater can be dangerous to human health.\[^1\] Symptoms of mild acute poisoning include headaches, vertigo, and flu-like effects; larger exposures can lead to significant toxicity of the central nervous system and heart, and even death. Following acute poisoning, long-term sequelae often occur. Carbon monoxide can also have severe effects on the fetus of a pregnant woman. Chronic exposure to low levels of carbon monoxide can lead to depression, confusion, and memory loss. Carbon monoxide mainly causes adverse effects in humans by combining with hemoglobin to form carboxyhemoglobin (HbCO) in the blood. This prevents oxygen binding to hemoglobin reducing the oxygen-carrying capacity of the blood leading to hypoxia. Additionally, myoglobin and mitochondrial cytochrome oxidase are thought to be adversely affected. Carboxyhemoglobin can revert to hemoglobin, but the recovery takes time because the HbCO complex is fairly stable. Treatment of poisoning largely consists of administering 100% oxygen or providing hyperbaric oxygen therapy, although the optimum treatment remains controversial.\[^2\] Oxygen works as an antidote as it increases the removal of carbon monoxide from hemoglobin, in turn providing the body with normal levels of oxygen. The prevention of poisoning is a significant public health issue. Domestic carbon monoxide poisoning can be prevented by early detection with the use of household carbon monoxide detectors. Carbon monoxide poisoning is the most common type of fatal poisoning in many countries.\[^3\] It is also commonly used as a method to commit suicide, usually by deliberately inhaling the exhaust fumes of a running car engine. Carbon monoxide poisoning has also been implicated as the cause of apparent haunted houses. Symptoms such as delirium and hallucinations have led people suffering poisoning to think they have seen ghosts or to believe their house is haunted.\[^4\]
WHAT’S IN THE GARAGE

Guide to Sensible Easting
http://books.google.com/books?id=QCYDRIL-
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=result&resnum=1&ved=0CAwQ6AEwAA#v=onepage&q=&f=false

What’s in the garage? The car, of course – and gasoline. Gasoline vaporizes. The afterburn fumes caused
by inefficient burning of gasoline are mostly carbon dioxide, which has no odor and is invisible. Breathing
these fumes results in headache, dizziness and mood swings. Think of people stuck in traffic jams,
breathing the afterburn of all the cars around them for hours at a time. When you park a hot car in the
garage and close the door behind it, the hot oil in the engine is volatile and gets into the air. Park the car
outside and wait for it to cool off before you bring it into the garage.

Other things you may keep in the garage you may keep in the garage like paint thinners and removers and
turpentine also vaporize easily, and stay in the air for months at a time. If you smell a rage that has been
used for paint thinner three months ago, you will see that it is still giving off these fumes. Try to keep down
the number of these substances in your garage to store them. And the garage should be ventilated out, not
into the house, with a suction fan. There should be no ducts from the garage into the house.

Your garage is probably where you keep chemicals you use on your lawn and garden like pesticides,
fungicides, or herbicides for instance. In the first place, do you really need them? Look at it this way, if it’s
going to an insect, a plant or a mouse, it’s a toxin and it can affect you, your pets and your children. If you
spray a week killer on your lawn and then walk around on it, you will repeatedly be bringing it inside on your
feet. Think for instance, of your kids playing on the carpet, perhaps putting things into their mouth that have
been on it. You wouldn’t let your kid rub his hand over a New York pavement and lick it, would you?

These are things we seldom think about. And, taken individually, none of them is going to kill you. But be
aware that everything you spray outside is likely to be in the air you breathe or will make its way back into
your house and settle there. There’s no real need to run this risk: we can use diatomaceous earth, natural
biological controls or just weed without spraying.
Garage pollution hits home

By ROB PARKER


Some indoor air-quality problems may begin in the most unlikely places, Canada's national housing agency says. According to Canada Mortgage and Housing Corp. (CMHC), an attached garage is a source of home air pollutants that we are only now discovering.

Starting a car in a garage, even with the garage door wide open, can produce elevated concentration of combustion pollutants that can find their way into your home as "respirable particles." Even driving a car into the garage, turning off the engine and closing the door, results in emissions of various chemicals that can linger for hours as the engine and its fluids cool down. Over time, pollutants in the garage air can be drawn into the house.

This is not just a theory -- a Health Canada study involving more than 100 houses revealed that houses with attached garages had measurable concentrations of benzene (a gasoline-related pollutant) in the indoor air, while houses with no garages or detached garages had little or no benzene.

There are also secondary sources of pollutants in garages:

- Gas-powered appliances, such as lawn mowers, chain saws and edging tools, have emission systems that are not as good as those found in cars.

- Chemicals such as pesticides and herbicides are also sources of pollutants.

It can be difficult to understand how and why garage air moves into the house. After all, there is at least one layer of drywall between the house and the garage; a significant amount of insulation; and the door to the house typically has weather-stripping and a spring closer.

So how does air get in? It can move through small cracks in the walls between the house and the garage, and through the top-floor ceiling. There are many tiny holes and cracks that permit this air exchange to take
place and they exist in all houses. It takes a sophisticated test with specialized tools, such as a blower door and leakage detection equipment, to find infiltration and exfiltration points.

The best way to prevent garage air getting into the house is to ensure that there are no leaks between the garage and the house.

This is easy to do in a house as it's being built. The builder should make interface walls and ceilings as airtight as possible. Make sure your builder knows that reducing pollution transfer from the garage is a priority.

The builder should:
- Ensure the airtightness of the garage ceiling and walls that are next to the house, before the insulation is installed and before installing drywall on the garage side.
- Check all wall-to-wall junctions or wall-to-floor junctions and seal them. If the top of the basement wall is exposed in the garage, this header space can be notoriously leaky.
- Diligently seal all penetrations from the house to the garage, such as wiring or central vacuum exhaust.
- Keep mechanical systems, such as furnaces and water heaters, out of the garage. While most Canadian builders wouldn't consider putting such systems in the garage, it's common practice in parts of the U.S. The few Canadian houses CMHC has tested (in B.C.) with heating systems in the garage had high levels of garage pollutants in house air.

It is much harder to prevent air movement from garage to house in an existing home. Leakage areas are usually hidden, hard to find and are tough to seal; but air-sealing the garage-to-house walls and ceilings may still be worthwhile.

If the garage side has no drywall, sealing air leaks can be simple.

If the drywall is simply screwed on the wall and isn't finished, removing it will give access to the interior spaces. Finishing the drywall itself with drywall compound and paint, and caulking all visible cracks and joints may improve airtightness.

Another option is to install an exhaust fan -- a good bathroom fan will do -- to vent garage air outside. Running the fan will lower air pressure in the garage relative to the house, and prevent air moving into the house.
This won't affect home heating costs much, but you will have to pay for electricity to run the fan, so choose one with low energy consumption. To further reduce fan use, only run it for a period (for example, one hour) after the garage door is used.

Continuous use of the exhaust fan is recommended if:
- There are a lot of noxious chemicals in the garage. Consider sending them to a hazardous waste disposal site.
- The garage is used to store or maintain older vehicles with higher emissions.
- There is a lot of coming and going via the main garage door.

If your attached garage is not used for vehicles and there are no other major chemical sources in that space, garage-to-house air movement should not be a significant problem.

Garage Air Pollutants Can Get Inside Your House

By Jeff Beneke, About.com Guide to Garages & Storage Spaces
http://garages.about.com/b/2009/09/14/garage-air-pollutants-can-get-inside-your-house.htm

Most people don’t need to be reminded that one effective way of ending their life is to sit in a garage with the doors closed and the engine running. Yet, if suicide is not on their mind, many of those same people give little if any thought to how often those toxic exhaust fumes are sucked inside the house.

Numerous studies in recent years have demonstrated that pollutants generated in garages attached to houses can and do find their way indoors. It is worth taking the time to consider what risks you might have of inadvertently polluting your indoor air quality.

Here is an article with tips on reducing the threat. These suggestions really boil down to two strategies: keep the air in the garage as clean as possible, and seal any gaps between the garage and house as completely as possible.

Stop Garage Fumes from Polluting Indoor Air
About.com
Attached garages are very convenient, but there is mounting evidence that they are responsible for negatively affecting indoor air quality. That’s because much of what we use our garages for (cars, mowers, paints, lubricants) contains or generates substances that are considered toxic. Once the toxic substances become airborne, they can easily migrate indoors.

It’s a bit ironic that we keep a floor mat by the door leading from the garage to the house so that shoe bottoms can be cleaned of largely nontoxic items like dirt, yet we often take no such preventative measures regarding the air.

Car exhaust, toxic chemicals and volatile organic compounds are present in almost all garages at least some of the time. And they can find their way into the house very easily through open doors, gaps around closed doors, ducts and other wall and ceiling penetrations.

There is scientific proof to back up this claim. A study involving 100 houses conducted by Health Canada found that those with attached garages had measurable quantities of benzene inside the house, while houses without attached garages had little if any benzene. Benzene is a gasoline-related pollutant. The study found similar results with other pollutants.

According to the U.S. Occupational Safety and Health Administration (OSHA), long-term exposure to benzene can affect bone marrow and blood production. Short-term exposure to high levels can cause drowsiness, dizziness, unconsciousness and death.

A survey of Minnesota houses during the winter of 1996-1997 found that 74 percent of homes with carbon monoxide (CO) detectors that went off were triggered by CO leaking in from the garage. Other studies from Iowa, Colorado and Alaska have found substantial evidence of garage-generated CO leaking into houses.

Nobody wants to breathe toxic pollutants, especially at home. Fortunately, there are a series of steps you can take to keep your indoor air quality something you need not worry about inhaling. Here are some tips:
• **Keep the garage air clean.** Avoid running the car, motorcycle, chain saw or lawn mower any longer than absolutely necessary while in the garage. Avoid placing mechanical systems such as water heaters and furnaces in the garage.

• **Seal the gaps.** Make sure the door leading from the garage into the house closes tightly and has proper weatherstripping applied. Seal all penetrations (ducts, wiring, etc.) leading into the house or the ceiling above the garage. Spray foam and caulk are good products for sealing these types of gaps.

• **Finish the walls and ceilings.** In new houses it is not uncommon for the garage to be left with open walls or with drywall attached but the joints not finished. Either of these conditions allow garage pollutants to easily find their way inside. Garage walls and ceilings that are completely covered with drywall, with joints properly sealed with tape and compound, and with the surface primed and painted are much less likely to leak. They are also much more attractive. (See [How To Install Drywall Like a Pro](#).)

• **Keep the door shut.** Often you find yourself with full arms when entering the house from the garage. The result can be that the door remains open until you set the groceries down somewhere. Or maybe you or the kids simply forget to close the door, or fail to close it all the way. This can allow nasty fumes from the garage to enter the house quickly and easily. You can avoid this problem by installing a self-closing door.

• **Keep the door open.** Never start your car or any other internal combustion engine while the garage door is closed. And when you do start the engine after the door has been opened, move it outside as soon as possible and shut the door to prevent exhaust fumes from floating back into the garage. When you pull your car into the garage, shut it off as soon as possible and leave the door open for a few minutes to clear the air.

• **Put a lid on it.** Make sure all containers of potentially toxic items are sealed. Don’t let cans of paint thinner, solvents and other liquids sit uncovered.

• **Vent it outdoors.** If you spend a lot of time in the garage working with chemicals, paints, wood finishes, combustion engines and other such items, consider installing an exhaust fan that sends the smells and fumes to the outdoors. A decent bathroom or kitchen fan will be sufficient.

If you are planning to build a new house or garage, give some thought to making the garage fully detached from the house. In addition to largely eliminating garage pollutants from migrating inside the house, here are some other [benefits of a detached garage](#).

Finally, make sure your home has at least one CO detector mounted probably. And, if you are curious about the CO levels in your garage, go ahead and mount one out there, at least temporarily, to see if it goes off on a regular basis. Though it might be irritating, it could be educational to learn that the air you are breathing in that space contains a toxic substance.
Five Steps to a Healthier Garage

http://web.extension.uiuc.edu/will/factsheets/family116.html

University of Illinois Extension

Garages used to be a structure to protect your car. Now garages contain multiple cars as well as your tool shop, collector of paint cans, and other chemicals. The average family loads and unloads children, pets, and groceries every day making it one of the most trafficked rooms in the home. The garage is home to our fuel-burning cars and storage space for a host of hazardous products. To make your garage safe, follow these steps:

Install an Exhaust Fan

Your garage is a place to keep your cars. But cars exhaust pollutants, fumes and gasoline odors that can easily find their way into the home if the garage is attached to your home. Car exhaust contains many kinds of gases and chemicals, including carbon monoxides, sulfur dioxide, nitrogen oxides and particulates – dust, dirt, soot, and smoke.

To keep these harmful gases and chemicals from entering the house, garages need to be well ventilated. Think about installing an adequate sized mechanical exhaust fan. Make sure it can move enough CFM (cubic feet per minute) of air from the entire garage. The EPA (Environmental Protection Agency) recommends two options: continuous mechanical ventilation of 50 CFM or intermittent ventilation for a minimum of 20 minutes at a capacity of 100 CFM per car (200 for two-bay garage), activated whenever the garage door is operated.

For intermittent fan operation, you can use a spring-wound crank timer that you manually crank to run for a set period of time. This will air out the garage as the vehicle cools down. The timer will shut off automatically, but you need to remember to crank it.

To bring in fresh air to replace the vented air, you cold keep a window slightly open, but this could entice a burglar. It's better to install louvered vents in a gable end.

Reduce Hazardous Products
Most garages become the catchall for storage. Take an inventory of the products in your garage and read the labels. Many of those items will have warnings, danger, caution and flammable. These items are household hazardous waste. By storing them in your garage, you have no guarantee of safety or protection of your family's health.

Never dispose of household hazardous waste. Take these items to the local household hazardous waste facility. When handling the items, use precaution. Use heavy-duty gloves to protect your hands while cleaning. Look for nontoxic pest and garden products when you make future purchases.

**Seal Off The Garage**
To prevent the passage of contaminated air into living spaces, make sure your garage is well sealed. Using caulk or expandable foam products carefully seal the entire common wall between the home and the garage. Include points where the drywall meets the floor or framing members do not meet properly. Include electrical outlets, lighting fixtures, air vents, plumbing and ductwork.

**Weather-Strip Doors**
The door that connects the garage to your living space must be airtight, because it's the primary pathway through which pollutants can enter your home. Use weather stripping around the door; a sealed threshold should be installed. Look at your options at the local hardware store.

The EPA notes that homeowners should not weather-strip or seal off garage doors that open to the outside, which would hinder ventilation. The air exchange around the doors helps to ventilate the garage.

**Take Precautions For Rooms Above Garages**
If you have a room above the garage, such as a bedroom or office, keep in mind that garage pollution will easily find its way inside. Usually it's through the ceiling. Make sure to properly seal the garage ceiling with a painted surface.

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**TOXINS IN THE HOME**
By Ben Selinger
G ONLINE - G Magazine

A guide to the potential toxins in your everyday life

It seems that every other week, there’s news of nasty toxic chemicals in the everyday items that you have round the home. Some of it is hype; some of it is rumor. But not all of it. Short of re-qualifying as an environmental chemist, how is a parent to know how dangerous the world is for their child? Here are a few of the myths and facts about toxins around the home.

Heavy metals
We’re not talking about Metallica here. Heavy metals do occur naturally but can be concentrated in our man-made world.

With prolonged high-level exposure, they can build up in the body, with potentially dangerous effects. In the body, metals such as lead and mercury attach to pairs of sulphur atoms in proteins and distort the shape of the protein molecule. This misshapen protein can no longer perform the bodily functions for which it was designed. This is a problem because our body’s metabolism depends entirely on enzymes, which are all various types of proteins.

The operation of the brain and memory is also reliant on specific proteins. Ultimately these metals can cause brain damage to adults, but it is growing children who are most at risk.

Common heavy metals
Mercury
Fish is often cited as a source of heavy metals. Now, as a food, fish is good for you: it’s high in protein, has beneficial oils and lots of trace nutrients. And while all fish contain some mercury, the levels are generally very low.

However, in large, long-living fish (particularly ones that eat lots of other fish) the mercury levels rise during their lifetime. Such fish include swordfish, broadbill and marlin, shark (flake), tuna and catfish. Some of these fish should be avoided anyway because their populations are under threat from over-fishing, but even the plentiful species should be eaten in moderation.

The US Food and Drug Administration recommends pregnant women eat these kinds of fish no more than once a month. High levels of mercury can cause nerve damage in adults and impair nerve development in children and babies.
Lead

We thought that lead paint was a thing of the past and we only had to watch out for peeling paint in old houses.

But the recall of half a million toys from China because of lead in their paint has dispelled that complacency. Lead, like mercury, causes damage to the brain and nerves. But how do you know if your child’s toys are decorated with lead paint?

Fortunately, household lead testing kits are available from hardware stores.

Some are quite sophisticated, sensitive (detects one microgram on a solid surface) and expensive (about $30). The kit has detailed instructions on how to cut and prepare the surface for testing. Only a few tests can be carried out with one kit as you mix the supplied substances together, applying all of it immediately.

Aluminium

Long suspected as a cause of Alzheimer's dementia, it now appears that the characteristic aluminium deposits in the plaques in the brain are a result, not a cause, of this disease.

At any rate, aluminium cookware is less common these days. Such cookware is easily corroded and pitted. Food acids, salt and traces of dissolved copper from domestic plumbing destroy the very thin natural protective oxide layer that spontaneously forms, then covers and protects aluminium metal from corrosion. This layer can be deepened by a process called anodising, but is still vulnerable if acidic foods are kept in it for too long.

There are other sources of aluminium in our diet. It is present in a number of legal food additives (173, 470, 541, 555, 556, 559), but unless intake is really excessive, aluminium is not a problem.

Others

Other heavy metals, for example cadmium and chromium, are still found at low levels in pigmented plastic building blocks and toys. Cadmium causes irreversible kidney damage.

Plastics
The variety of plastics in our lives is astonishing. Everything from telephones to stockings is manufactured from this group of synthetic substances, but most are safe.

Here's a few to watch out for:

**PVC**

PVC is normally a harmless rigid solid and used in house gutters and pipes.

To make it rubbery, plasticisers such as chemicals called phthalates are added. These plasticisers can leach out over time.

Studies on fish suggest that, at high levels, they may act as weak sex hormones. In humans it is thought that phthalates may interfere with the body's usual way of regulating functions with hormones — the endocrine system.

Therefore plasticised PVC is not suitable for products that children might chew.

For items such as baby bottle teats, silicones are the main plastic used today, and these materials are safe. Rubbery toys may use other materials that are naturally rubbery, without plasticiser, and are safer to chew.

PVC has also had a bad rap because its high chlorine content means some nasty by-products can be created during its manufacture and if it is incinerated.

If you want to know whether your plastic has any chlorine in it, here is a simple test.

Take a piece of bare copper wire (or strip some insulated wire).

Hold its end in a cloth to protect your fingers and heat it to red heat in a flame from a gas burner, moving it up and down a little, until the flame no longer shows any colour (other than a little bit of yellow from harmless sodium).

Touch the plastic with the hot wire, so that a little plastic sticks to the wire.

Reinsert the wire into the flame. If the plastic burns with a greenish flame then there is chlorine in your plastic.

**Teflon**

Teflon (PTFE) plastic is used in non-stick cookware. It is inert and non-toxic.

It does begin to deteriorate if heated above 235°C and decomposes above 350°C. Cooking oils and fats smoke at around 200°C and meat is fried at between 200°C and 230°C.

So, unless you make a habit of deliberately heating empty cookware full on, there is no problem.

The chemical used to make Teflon, however, is another matter. Known to chemists as PFOA (perfluorooctanoic acid), it's a "likely carcinogen" according to the US Environment Protection Agency and it is very closely controlled during its manufacture.
PFOA is NOT present in the final product of Teflon. However, PFOA and similar compounds were, until recently, used in carpet and furniture dirt-repelling treatments and other items, such as the packaging of microwave popcorn. Most products have been reformulated. But it’s not recommend that you use any stain-resistant treatment on carpets where babies are likely to crawl. Read the labels for PFOA and check with manufacturers for any polyfluoro compounds.

Cleanses and Cleanups

CLEAN UP YOUR HOME
Dr Hulda Clark
http://www.drclark.net/en/cleanses_clean-ups/house.php

Your home was meant to be your "safe place". It is your little bit of universe, even heaven at times. But it has become your most dangerous place. Get it cleaned up while you are on your motel-vacation. This is an easy task because it mostly involves throwing things out. Hopefully your family and friends will jump to your assistance.

• The refrigerator gets checked or changed.

• The basement gets cleaned.

• The garage gets cleaned.

• Every room in the house gets cleaned.

Clean Garage

Do you have a garage that is a separate building from your home? This is the best arrangement for an immunodepressed society. But if your garage is attached, as it often is, you have a problem. Never, never use the door between the garage and house. Tack a sheet of plastic over it to slow down the rate of fume entrance into the house. Your house is taller and warmer than the garage so garage-air is pulled in and up as the warm air in the house rises. You get so used to automotive fumes that you don't smell them.
Lung cancer is our most common variety. All lung cancer patients have two or three of these air toxins in their homes giving them lung disease besides the cancer:

- Freon (refrigerator, air conditioner)
- Fiberglass (drapes, open insulation)
- Formaldehyde (foam bedding, new clothing, newspapers)
- Vanadium (gasoline, leaking fuel, automotive exhaust)
- Asbestos (gym belts, dryer belts, hair blowers)
- Arsenic (pesticide used indoors, wallpaper)
- Beryllium (outside air pollutant)
- Strontium (outside air pollutant, water, corn, honey)
- Chlorine
- Tobacco smoke

After removing lung tumors with clinical or alternative treatments the lung destruction continues if you return to your home without cleaning up these toxins. Cancer must return, too.

Since these toxins cannot be guessed and there are no convenient tests, lung cancer patients are doomed. Learn to use a Syncrometer so you can find your problem precisely. Or change it all; move. Chances are you would not land in the same air toxins as you have now.
Household toxins? Look no further than your kitchen cabinets.

It's official: Staying home is hazardous to your health. Toxins found in the home injured 789,000 Americans between 1992 and 1995, and new research suggests that this figure is underestimated.

"Toxins in U.S. homes now account for 90 percent of all reported poisonings each year," says Ross Ann Soloway, administrator of the American Association of Poison Control Centers. That's an epidemic of hazardous living by any standard. And while these figures include everything from non-fatal aspirin overdoses to the deadly consumption of drain cleaners, they fail to include long-term exposure to toxins like lead and asbestos.

To address the climbing domestic injury rates associated with household toxins, Congress and the Centers for Disease Control in 1992 created the Unintentional Injury Center to focus on the health dangers of consumer goods and modern home living. Other federal agencies are following suit. The EPA now has branches which deal with home indoor air quality, lead exposure and ubiquitous low-level toxicity, and the Department of Housing and Urban Development publishes a pollution look-out list for first-time home buyers.

**The short list of toxins under your roof may surprise you:**

**Formaldehyde** off gasses (evaporates) from cushions, particleboard and the adhesives used to manufacture most inexpensive wood-based products. Carpets and carpet cushions may also offgas formaldehyde, causing eye and upper respiratory irritation. According to the EPA, formaldehyde may even cause cancer.

**Radon** is the second-leading cause of lung cancer in the United States, warns the Surgeon General. Radon is a natural radioactive gas that can seep into homes through cracks in the basement, the surrounding foundation and in well water. It enters the body quietly through the airways.
Lead keeps epidemiologists returning to the drawing board, says Soloway, "mostly because we know more now about the adverse effects of low-level exposure." Levels once thought to be acceptable are now known contributors to learning disabilities and behavioral problems. Lead is found in paint in older houses, old plumbing and soil near highways and busy roads. It causes neurological and kidney damage, high blood pressure, disrupted blood cell production and reproductive problems.

Carbon monoxide will kill an estimated 660 Americans this year. Don't look for exhaust fumes in the attached garage; the biggest culprit is the unserviced furnace burning propane, butane or oil.

Arsenic is still lacing many household pesticides and is increasingly used as a wood preservative. Low levels of inorganic arsenic "may cause lung cancer risk," according to the CDC. The Department of Health and Human Services agrees, adding arsenic compounds to the list of unknown carcinogens.

Vinyl chloride is the source of "new car smell": The plastic interior of a new car off-gasses this known carcinogen. Water sitting in PVC pipes overnight may also be steeping into a toxic tea. Very large exposures can lead to "vinyl chloride disease," which causes severe liver damage and ballooning of the fingertips.

Hydrofluoric acid "can cause intense pain and damage to tissues and bone if the recommended gloves happen to have holes in them," says Soloway. This highly corrosive substance is the active ingredient in many household rust removers.

VOCs: But even the most liberal list of known toxins pales next to the order of volatile organic compounds (VOCs). VOCs comprise hundreds of natural and man-made, carbon-based agents. They react quickly with other carbon-based compounds, and evaporate easily, making them ideal solvents. VOCs can be found in disinfectants and pesticides, too.

Solvents: Benzene and methyl ethyl ketone traverse cell walls unchecked by normal cell defense. Both are known carcinogens. Cousins toluene, xylene, 1,1,1-trichloroethane and trichloroethylene make up the lion's share of the solvent market;

Disinfectants: Phenols, which include biphenyl, phenolics and the preservative pentachlorophenol, are found in disinfectants, antiseptics, perfumes, mouthwashes, glues and air fresheners;
**Pesticides:** Chlordane, aldrin, dieldrin, though all banned for nearly two decades, continue to show up airborne in older houses.

Don't be a statistical figure on the CDC's tracking list: Be aware of what substances, from pesticides to cleaners, pose threats in your household. Maintain ingredient awareness. Many poisonings still occur because of product combinations, like the **ammonia-chlorine bleach reaction**, which produces the deadly respiratory irritant **chloramine (a problem labeling practices have not addressed).**

Replace toxic agents with non-toxic alternatives. Above all, educate your household to reduce risk and exposure. For practical ideas on reducing your family's risk, consult the following books: "Living Healthy in a Toxic World" by David Steinman and R. Michael Wisner (Berkeley, 1996); "Toxins A-Z: A Guide to Everyday Pollution Hazards" by John Harte, Cheryl Holdren, Richard Schneider and Christine Shirley (University of California, 1991); "Home Safe Home: Protecting Yourself and Your Family from Everyday Toxics and Harmful Household Products" by Debra L. Dadd (Putnam, 1997).

For more information, contact the Unintentional Injury Center, (770)488-4652.

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*How to Avoid the Top 10 Most Common Toxins*

By Dr. Joseph Mercola with Rachael Droege

Mercola.com

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*Note: Food and other sources have been deleted from this article.*

**The Effects of Toxins on Your Body**

A study in last year's British Medical Journal estimated that perhaps 75 percent of most cancers are caused by environmental and lifestyle factors, including exposure to chemicals. Another report, this one by the Columbia University School of Public Health, estimated that 95 percent of cancer is caused by diet and environmental toxicity.
The 10 Most Common Toxins (for garage and external to home sources only)

1. **PCBs (polychlorinated biphenyls):** This industrial chemical has been banned in the United States for decades, yet is a persistent organic pollutant that's still present in our environment.

   **Risks:** Cancer, impaired fetal brain development
   
   **Major Source:** Farm-raised salmon. Most farm-raised salmon, which accounts for most of the supply in the United States are fed meals of ground-up fish that have absorbed PCBs in the environment and for this reason should be avoided.

2. **Pesticides:** According to the Environmental Protection Agency (EPA), 60 percent of herbicides, 90 percent of fungicides and 30 percent of insecticides are known to be carcinogenic. Alarmingly, pesticide residues have been detected in 50 percent to 95 percent of U.S. foods.

   **Risks:** Cancer, Parkinson's disease, miscarriage, nerve damage, birth defects, blocking the absorption of food nutrients

   **Major Sources:** Food (fruits, vegetables and commercially raised meats), bug sprays

3. **Mold and other Fungal Toxins:** One in three people have had an allergic reaction to mold. Mycotoxins (fungal toxins) can cause a range of health problems with exposure to only a small amount.

   **Risks:** Cancer, heart disease, asthma, multiple sclerosis, diabetes

   **Major Sources:** Contaminated buildings, food like peanuts, wheat, corn and alcoholic beverages

4. **Phthalates:** These chemicals are used to lengthen the life of fragrances and soften plastics.

   **Risks:** Endocrine system damage (phthalates chemically mimic hormones and are particularly dangerous to children)

   **Major Sources:** Plastic wrap, plastic bottles, plastic food storage containers. All of these can leach phthalates into our food.
5. **VOCs (Volatile Organic Compounds):** VOCs are a major contributing factor to ozone, an air pollutant. According to the EPA, VOCs tend to be even higher (two to five times) in indoor air than outdoor air, likely because they are present in so many household products.

   **Risks:** Cancer, eye and respiratory tract irritation, headaches, dizziness, visual disorders, and memory impairment  
   **Major Sources:** Drinking water, carpet, paints, deodorants, cleaning fluids, varnishes, cosmetics, dry cleaned clothing, moth repellants, air fresheners.

6. **Dioxins:** Chemical compounds formed as a result of combustion processes such as commercial or municipal waste incineration and from burning fuels (like wood, coal or oil).

   **Risks:** Cancer, reproductive and developmental disorders, chloracne (a severe skin disease with acne-like lesions), skin rashes, skin discoloration, excessive body hair, mild liver damage  
   **Major Sources:** Animal fats: Over 95 percent of exposure comes from eating commercial animal fats.

7. **Asbestos:** This insulating material was widely used from the 1950s to 1970s. Problems arise when the material becomes old and crumbly, releasing fibers into the air.

   **Risks:** Cancer, scarring of the lung tissue, mesothelioma (a rare form of cancer)  
   **Major Sources:** Insulation on floors, ceilings, water pipes and healing ducts from the 1950s to 1970s.

8. **Heavy Metals:** Metals like arsenic, mercury, lead, aluminum and cadmium, which are prevalent in many areas of our environment, can accumulate in soft tissues of the body.

   **Risks:** Cancer, neurological disorders, Alzheimer's disease, foggy head, fatigue, nausea and vomiting, decreased production of red and white blood cells, abnormal heart rhythm, damage to blood vessels  
   **Major Sources:** Drinking water, fish, vaccines, pesticides, preserved wood, antiperspirant, building materials, dental amalgams, chlorine plants

9. **Chloroform:** This colorless liquid has a pleasant, nonirritating odor and a slightly sweet taste, and is used to make other chemicals. It's also formed when chlorine is added to water.
Risks: Cancer, potential reproductive damage, birth defects, dizziness, fatigue, headache, liver and kidney damage.

Major Sources: Air, drinking water and food can contain chloroform.

10. Chlorine: This highly toxic, yellow-green gas is one of the most heavily used chemical agents.

Risks: Sore throat, coughing, eye and skin irritation, rapid breathing, narrowing of the bronchi, wheezing, blue coloring of the skin, accumulation of fluid in the lungs, pain in the lung region, severe eye and skin burns, lung collapse, reactive airways dysfunction syndrome (RADS) (a type of asthma)

Major Sources: Household cleaners, drinking water (in small amounts), air when living near an industry (such as a paper plant) that uses chlorine in industrial processes.

High EMF’s and Toxins Create Your Paranormal

http://grou.ps/wwps/blogs/51518

The work of Michael Persinger and Anne Silk. The effects of being exposed to high levels of EMF on the human brain and physiology are known. They range from hallucinations, blackout, skin rash and burns, joint pain, to dizziness and altered state of consciousness. In essence, Budden’s argument is that EMF are the material cause of close encounters, but the repertoire of images and notions we have in our mind fills the actual content of the experience. In other words, for Budden UFO close encounters are essentially a form of dream caused by an external, but natural, force. There is no non-human entities involved. This also triggers people to experience paranormal, seeing ghosts and demons. Its found when the front temporal lobe is exposed to an electrical or chemical change people can be made to see anything from aliens to ghosts, to God. Psychics and sensitive’s exposed to emf’s can think they are experiencing paranormal when its actually the brain creating these feelings.

The Government

A US government publication on electricity use and safety states that:

“Electric and magnetic fields are found throughout nature and all living things. They hold matter together. They are necessary for the operation of the nervous system.”

We may look to the cloning experiments for some indication of the sensitivity of living systems to electrical or chemical stimulus. Cloning experiments, of necessity, require the application of electricity or a chemical in
order to ‘kick start’ or initiate the life process of the reprogrammed single cell that will under suitable conditions, become a fully functioning living system.

**ELECTRO HYPERSENSITIVITY (EHS)**

The phenomenon of EHS is not as yet fully recognized by health professionals, though this attitude is slowly changing. This change must be accelerated to properly treat mental illnesses and a host of other neurological conditions.

**MENTAL HEALTH AND EMR**

Involuntary exposure to environmental contaminants such as EMR and volatile organic compounds (VOCs) can trigger neuropsychiatric conditions. It may be speculated that they also provoke neurological reactions that mimic neuropsychiatric disorders.

Unfortunately there are disturbing reports that people are being misdiagnosed with mental illness when EMR or chemical contamination is implicated. Due to the nature of the symptoms, these people are often hospitalized against their will and treated with mind altering drugs that may have the effect of worsening their condition, where allergies and sensitivities are present, though undetected.

There is a whole range of neuropsychiatric disorders, known to be influenced by environmental factors. Changes in intensity of various environmental cues such as light, temperature and magnetic fields act as triggers for the expressions of these disorders. The following list of environmentally triggered disorders: mania, depression, panic attacks, bulimia, anorexia nervosa, obsessive-compulsive disorder, suicide, cocaine addiction, Tourette’s syndrome, schizophrenia, epilepsy. Paradoxically, bright light therapy has been found effective in treating depression and is being considered as a treatment for some of the other listed disorders.

**Other dangers**

Exposure to toxins and emf’s has lead to the increase in violent crimes and the explosion of road rage, domestic abuse and a host of other crimes.

**What you can do**

Search your house and store toxins in a garage or shed, get them out from under the sink or the basement near your furnace. Pick up a cheap EMF meter an check your bed room and rearrange so you aren’t exposed, move clock radios and stereo’s across the room. When your setting in front of your computer put the case away from your head, on the floor or on the opposite side of your desk.
Gas Heater Dangers
http://www.homeimprovementhelper.com/furnace/gas_dangers.htm

While natural gas is the most efficient type of furnace it is not without its drawbacks. Natural Gas has certain dangers that you must be aware of to keep you and your family safe. Take a look at the items listed below if you have or are considering a natural gas furnace.

**Forced air furnaces:**
A gas furnace produces certain byproducts, the character and composition of which depends on the efficiency of the furnace. A gas furnace with **leaks or cracks can be dangerous** as it can leak carbon monoxide into your home. This gas is virtually undetectable because it doesn’t smell and you can’t see it. A **carbon monoxide leak can make you sick with flu-like symptoms** (such as headache, nausea, vomiting, dizziness, and fatigue) or, in severe cases, lead to death.

It’s important to **have your gas furnace inspected once a year** for any leaks through which gas could escape, as well as to make sure that the **flame contains the right amounts of both gas and air**. There is a safety switch and a limit switch that ensure the fan will run when the furnace is hot and that the entire unit will switch off if the flame exceeds its bounds. These features should be looked at as well during a safety check.

A **ventless furnace** has a **switch to detect dangerous levels of carbon monoxide** in the air, and this feature should be checked regularly as it is possible for it to stop working.

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**WHAT ARE THE DANGERS OF PROPANE FURNACES**
By Russell Huebsch
http://www.ehow.com/about_5507009_dangers-propane-furnaces.html

The propane furnace, invented in the early 1900s, offers a cheaper and much **cleaner** alternative to electrical heating. The benefits of using gas come with some disadvantages, though: Propane furnaces are much more dangerous than electrical heaters and can cause death.
History
1. Propane was discovered during the early 1910s by U.S. Bureau of Mines chemist Walter Snelling. Snelling discovered propane when asked to determine why gasoline evaporated so quickly in the Ford Model T. When Snelling bottled the gasoline, it kept pressurizing the cork and popping out. After studying this vapor, Snelling found it was flammable and could be used for a multitude of purposes.

Fire
2. While propane furnaces and furnaces fueled by other natural gases can cause fires and explosions due to leaks, propane furnaces are much more dangerous. When leaking, propane gas from a furnace will collect at a ground level close to the pilot light. After a sufficient amount collects, the propane gas causes a much greater explosion than does natural gas, which disperses evenly throughout a room.

Carbon Monoxide Poisoning
3. Like all natural gases, the propane used in a propane furnace produces a minute amount of lethal carbon monoxide gas that can collect and eventually cause death or severe health problems. Placing a propane furnace in a confined space can trap and collect carbon monoxide. This is why propane heaters should be placed in a ventilated area or an unused space such as a basement or attic.

Clogged Vents
4. Propane furnaces work by collecting surrounding air and heating it with a propane flame. Some states have special laws that require propane furnaces to have venting to prevent carbon monoxide buildup. Forgetting to change the filter on a propane furnace leads to clogging of the ventilation shaft and can cause a buildup of carbon monoxide.

Benefits of Propane
5. FurnaceCompare claims that switching to a propane furnace can save a family as much as 50 percent on home heating bills. Propane furnaces also last up to a decade longer than electric-heating appliances. They also burn at a high temperature and heat up faster than a regular electric air pump. Propane is also better for the environment as it emits only a negligible amount of pollutants.

Old Furnace Asbestos Soil dangers
By JJ Rose
eHow
The Danger of an Old Furnace

1. It makes sense that asbestos was used in the manufacturing of many old furnaces, since asbestos acts as a fire retardant. As long as the manufactured good stays completely intact and undisturbed, the asbestos does not pose a threat. However, there is nothing that can ever guarantee that a product or construction will stay intact and not suffer disturbance or damage. Any asbestos-made object--be it an entire building or a single roof shingle or an old heater--that is punctured or damaged at all makes the substance airborne. If the old furnace were to crack or break, the asbestos soils would become microscopic clouds that fill the air, usually invisible to the naked eye, and exposed people could suffer serious health conditions.

Health Threats

2. The scary part of asbestos exposure is that its effects can take years to materialize in the body. Exposure to asbestos creates a dangerously high risk of lung disease. The chances of suffering from asbestos-induced lung disease grow with exposure. The results can be deadly, even though the symptoms of the disease don't occur until far after the exposure. Asbestos causes three main lung diseases: lung cancer, asbestosis, and mesothelioma, a rare form of cancer. These diseases are potentially fatal, and asbestosis has no cure.

Signs and Symptoms of Exposure

3. Symptoms of lung disease include a changing in the breathing pattern, difficulty breathing, a wheezing and crackling sound during inhalation, a persistent cough, an increasingly hoarse voice, shortness of breath, and chest pains. Anyone who suspects or is certain that he or she has been exposed to asbestos should immediately see a physician, followed by a lung specialist.

Warning

Test old furnaces for asbestos presence. Asbestos experts, who are skilled professionals specifically trained for hazardous materials testing, are the only people qualified to make the determination of asbestos existence. The National Institute for Standards and Technology (NIST) offers a list of asbestos inspectors and laboratories to test for asbestos in old furnaces, or any other suspected place or object. Reach NIST at (301) 975-4016. The EPA is a good source of plentiful, current, and thorough information on asbestos.

Gas Furnace Safety Tips

By BL Baird
Gas furnaces are one of the most common types of furnaces found in modern homes. Gas furnaces can also be dangerous if not cared for properly. Gas furnace safety rules apply to both natural gas and propane furnaces. Most of these same rules also apply for oil furnaces.

Gas leaks:
If you smell gas in your home, get out immediately and call the gas company or fire department. Do not use the phone inside your home. Do not turn on any lights or other electrical devices. Do not attempt to locate a gas leak with a candle, this has been done and the results were not good. Gas leaks can be detected with soapy water but it is really best to get professional help with leaks. When you leave your home, leave the door open to allow fumes to escape and do not go back inside until you have been given an all clear from the gas company or fire department.

Furnace clearance:
Gas furnace installations require a clearance distance from walls and other appliances or storage areas. Do not store combustible materials near the furnace. The furnace does give off heat and many cleaners and solvents emit vapors that can ignite from that heat. You should also not have any materials stored within 6 inches of the vent pipe.

Keeping it clean:
The burner area of your furnace should be kept clean. Excess dust and debris should not be allowed to accumulate on or around the furnace. Furnace filters should be replaced as often, or more often, as the filter manufacturer suggests. Rust and scale can build up on burners and interfere with gas flow. Enough build up of debris in this area can start a fire within the furnace itself. Heating registers into rooms should be kept clean and no more than 20 percent should be shut off. Excessive build up of heat inside the furnace can occur if it has nowhere to go.

Carbon monoxide:
Gas furnaces can produce carbon monoxide. Unlike the gas in the furnace itself, carbon monoxide is odorless. Even with a properly cleaned and adjusted furnace, carbon monoxide can be produced. It may not be noticed in a home until there has been significant build up and the residents have already been effected. Carbon monoxide poisoning can lead to death. It is very important to have a carbon monoxide detector in your home.
Toxic Mold
American Air Testing
http://www.americanairtesting.com/toxic_mold.htm
This page is a review of what toxic mold is and is not.

There are millions of different kinds of molds; only a very few are toxic (toxigenic meaning toxic to certain portions of the population) or pathogenic. That's not to say interior mold growth should be ignored; rather the sky is usually not falling if you see a small amount of black discoloration on tile in your bath. Getting rid of toxic mold can be as painful as a divorce - and sometimes more trouble. You must fix all the water leaks or the best remediation (professional removal of the mold) won't remain successful. That means, simply, that if you don't fix all the leaks, chances are good the mold will return. Keep in mind that water damages buildings and presents a far greater problem than mold. The water present will draw cockroaches, dust mites, rodents and other critters. The wet building materials will decompose and off gas chemicals.

If you live in a condo or an apartment or share a wall with your neighbor you may be "inheriting" their mold problem.

Mold grows because water is getting into places it doesn't belong, like from a stucco crack, building defect, broken window, roof leak or a plumbing leak, etc. Sometimes elevated interior humidity alone is enough to trigger elevated levels of toxic mold inside occupied areas. This occurs usually in uninsulated dwellings that have several occupants, extensive contents, single paned windows and no kitchen or bath exhausts. Sometimes the dryer is venting into the living space further contributing to elevated interior humidity. Sometimes new mothers will decide their baby's room need a humidifier causing interior mold growth. If humidifiers are not properly maintained bacteria can also become a problem.

When certain molds grow inside buildings it can trigger allergic responses in the people that occupy the space. Some people can become very, very sick from mold and other environmental contaminates. It depends on how long and how much you have been exposed to and to which molds. The longer the exposure the more probability of developing a hypersensitivity to mold increases. See Melissa.org.
A very few molds may cause serious health threats in immunocompromised people. These molds families are

- Fusarium/Alternaria
- Chaetomium/Cladosporium
- Penicillium/Aspergillus types
- Stachybotrys

There are several "first cousins" to the molds listed above that may under certain conditions also produce mycotoxins.