KEEPING CHEMICALS OUT OF DRINKING WATER SOURCES:

The First Line of Defense

FACT SHEET 5

Source Water Protection is a provincial program to protect our municipal drinking water sources (water found in lakes, rivers and underground) from contamination and overuse.

Prevention is key

It sounds obvious…chemicals and other toxic substances will make our water undrinkable if they get into it. It's far easier to prevent contamination than it is to clean it up. In fact, for some chemicals, clean-up is practically impossible because of the costs associated. In some cases, municipalities have been forced to decommission – or plug and seal – wells because of contamination. The costs of cleaning up were too burdensome.

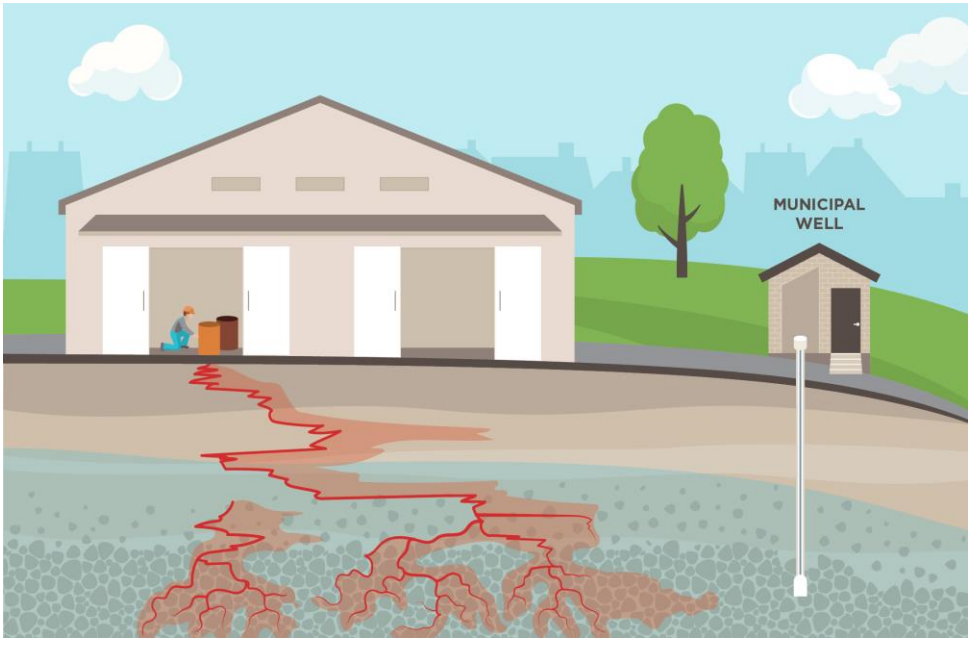
Dense non-aqueous phase liquids (DNAPLs)

Dense non-aqueous phase liquids, or DNAPLs, are an especially toxic group of substances that we need to keep out of our water supplies. Like organic solvents, DNAPLs can be found in a number of common products. They are found in products like paint strippers, resins, adhesives, lacquers, varnishes, and liquids commonly used in commercial and retail dry cleaning.

What make them particularly hazardous are their physical properties. They do not readily dissolve in water and because they are denser than water, they sink. Their path is difficult to predict so they are also hard to find. In essence, they are practically impossible to get out of the water once they get in. The only truly effective way to deal with DNAPLs is through prevention – by not letting them get into our water sources in the first place.

What chemicals are we talking about?

One particular class of chemicals is called organic solvents. They are found in a variety of common products that are in many homes and businesses – paints, glues, varnishes, inks, adhesives, etc. They aren't a problem unless they get into the water supply. This means they need to be stored, used and disposed of properly.



Keeping Chemicals Out of Drinking Water Sources: The First Line of Defense

FACT SHEET 5

DO YOUR PRODUCTS CONTAIN DNAPLs?

Take a look at product packaging or, if you're a business, the material safety data sheet (MSDS). The DNAPLs of most concern are:

- **1,4-Dioxane**
- **Polycyclic Aromatic Hydrocarbons (PAHs)**
- **Tetrachloroethylene (aka perchloroethylene or PCE)**
- **Trichloroethylene (TCE)**
- **Vinyl Chloride (VC)**

One solution: Source Water Protection

Source Water Protection is the provincial government's program to protect our sources of water so we have safe and abundant supplies. Its focus is on protecting municipal drinking water supplies.

Source Water Protection is legislated through Ontario's *Clean Water Act*. Under the *Act*, local Source Water Protection Plans were developed and are now in place across the province. They contain policies that safeguard our municipal drinking water sources. Some of the policies manage the risk posed by storage and use of chemicals and other toxic substances. Some policies provide conditions on how or where they're used, in what volumes, or what measures need to be in place in the event of an accidental spill. Some policies may prohibit their use in certain situations.

Source Water Protection policies apply only in certain areas – areas designated as "vulnerable" because of their location near a municipal drinking water source (either a municipal well or surface water intake).

What's my role in keeping our water supplies safe?

Everyone has a role. If you use, store or dispose of products containing organic solvents or DNAPLs, do so with care. Prevent them from entering water sources. This means they need to be used, handled and disposed of properly through a hazardous waste program. They should NEVER be poured down the drain.

If you use or store these substances in a vulnerable area, you have an extra responsibility to handle chemicals like organic solvents and DNAPLs with the utmost of care.

Managing the risk

Property and business owners near municipal wells or surface water intakes need to pay special attention when it comes to protecting source water.

In a vulnerable area near sources of municipal drinking water, you may need to get regulatory approval if you use, store or dispose of organic solvents or DNAPLs in certain volumes.

Your local Risk Management Official (RMO) will work with you to determine if your activity poses a threat to drinking water, and if so, how you might manage the risk.

FOR MORE INFORMATION, CONTACT

Barrie

The City of Barrie
70 Collier Street,
Barrie, ON L4M 4T5

Phone: 705.726.4242
Website: **barrie.ca/SourceWaterProtection**

DRINKING WATER SOURCE PROTECTION
ACT FOR CLEAN WATER

South Georgian Bay Lake Simcoe Source Protection Region
ourwatershed.ca