

# The Dirty Business of Life's Conveniences

By Monica Guetre

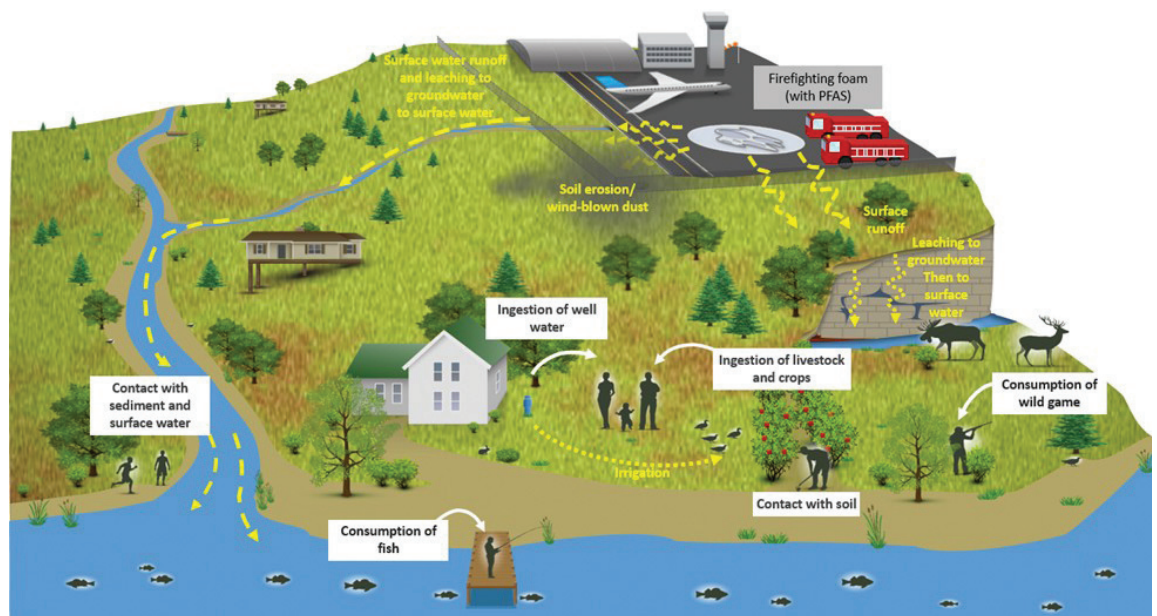
You may have caught the news about banning what is known as “forever chemicals” here in Canada even with all the other disastrous headlines vying for our attention.

The story is important and I hope this catches your attention so we can all weigh in by July 19 because finally the government is paying attention to a big problem, and yes it will make life less convenient.

The federal government is considering banning firefighting foams. That’s a big deal since it’s a great extinguishing fire fighting tool when you can’t douse a fire with water or when there is no water nearby.

Why ban this foam?  
Well firefighting foam is made up of “forever chemicals” known as per- and polyfluoroalkyl substances (PFAS); these chemicals hang around forever.

You may think ‘what’s the big deal?’ since we know that one of the building blocks of life, carbon, has been here a very long time, how about oxygen because we really need that to hang around forever too.



Conceptual site model for a PFAS-impacted contaminated site due to historical AFFF use, and associated human health exposure pathways to be assessed in a human health risk assessment.

What the government and scientists are actually talking about is chemicals which don’t naturally occur but yet are found everywhere, even in the arctic, in the air and in us.

How did these chemicals get there? Starting in the 1940s it seems some companies, even with some encouragement from governments, excelled in creating new chemicals. Unfortunately the goal to fix a problem or making life more “convenient” backfired. In fact we are so good at messing things up as there are thousands (about 4,700) of these “forever chemicals” to deal with.

It only took a few companies to tinker with the carbon-hydrogen bond, replacing it with a very strong carbon-fluorine chemical to begin this mess. By binding the fluorine it allows these PFAS chemicals to accumulate over time rather than break down into a natural state. The result is these chemicals linger for decades and some for centuries. The kicker is that these companies knew that these chemicals were highly toxic because PFAS are also toxic at extremely low levels (i.e. parts per quadrillion).

What's important to remember is that all of these "forever chemicals" have two things in common: we made them in the name of convenience and they contain chains of carbon and fluorine.

The conveniences we get with "forever chemicals" - those PFAS, are water and grease-proof substances, stain resistant, rust resistant, on the non-stick cooking pans and appliances.

These PFAS have been added to many plant-based items like straws (so much for banning one-time use plastic straws or naturally biodegradable); dental floss; liners for baking cupcakes; popcorn boxes at the movie theatre; microwave popcorn bags; ice cream tubs; disposable and fast food packaging like the grease-resistant pizza or a burger box, the French fry bag, the burrito wrapper (who wants grease seeping through a container onto clothes); the stain resistant and water proof couch you take a nap on; your flooring; the breathable water-resistant gym shorts, yoga pants or a baby's blanket; your rain gear that promises to be water-proof; the safety clothing that fire fighters wear while dousing a fire with water or the PFSA chemical spray-foam. It is now in the air you breathe, in your drinking water; leaching out of landfills into our streams, rivers and into our food-both plant and animal; destroying our natural habitats and many species along the way... the list is endless and certainly it's not "convenient" for this to go on forever.

The danger is that we know these toxic "forever chemicals" cause testicular, kidney, liver and pancreatic cancers; thyroid-endocrine disruption; interference with vaccine effectiveness, reproductive problems; weakened childhood immunity; low birth weight and child mortality; increased cholesterol; and weight gain in children and dieting adults.

So much for boasting about Canada's natural wonders, or saving money with preventive health care because, in the name of convenience, we are instead blowing up our health care system for decades to come and destroying our future.

Right now as we go about in our daily lives it won't be easy to avoid all of these "forever chemicals" but we can resist some of our urges for convenience by replacing things like a non-stick pan with stainless steel, cast-iron, glass, or ceramic.

Also, as a consumer, we will have to read labels more carefully. If you see "PFOA free" on something like an air-fryer it most likely means that that is made of a different kind of PFAS. Look for "PFAS-free" or "certified non-toxic."

Our Environment Minister Steven Guilbeault is right, only diamonds should live forever.

What can we do? There's a deadline to have a say on the impact - July 19.

You don't need to have expertise on the topic or be a chemical engineer to shape our future. Although I hope all you with a chemical background do step up with your expertise.

We've been invited to weigh in on the "Draft State of Per- and Polyfluoroalkyl Substances (PFAS) Report and Risk Management Scope."

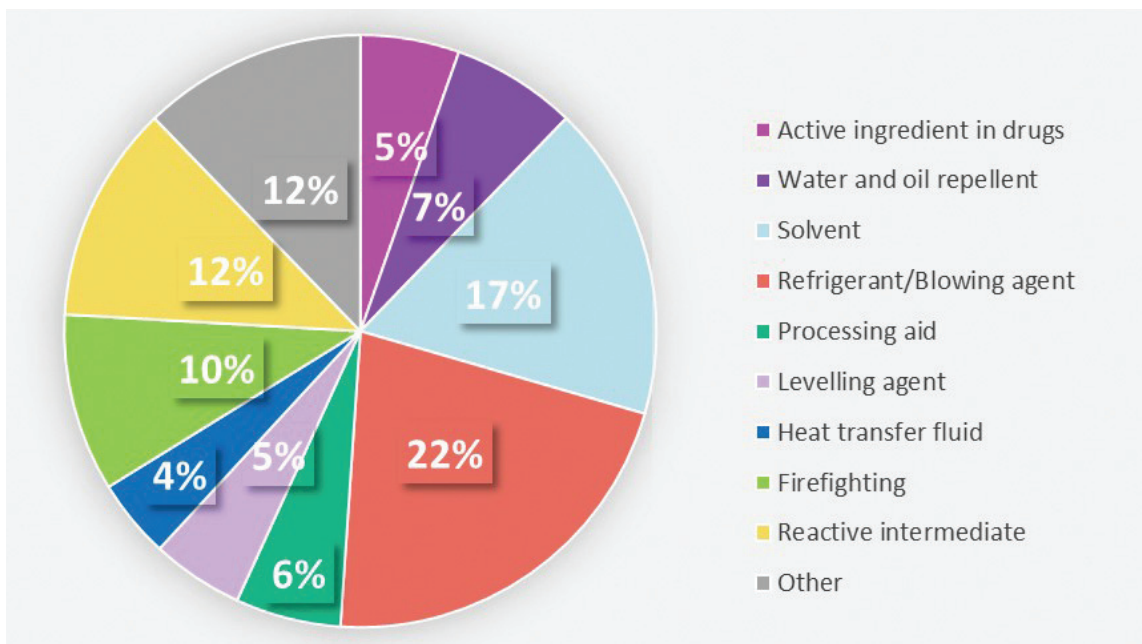
You can read the draft regulations at [canada.ca/en/environment-climate-change/services/evaluating-existing-substances/draft-state-per-polyfluoroalkyl-substances-report](https://canada.ca/en/environment-climate-change/services/evaluating-existing-substances/draft-state-per-polyfluoroalkyl-substances-report).

And remember, anyone who provides information may request that it be treated as confidential under section 313 of the Canadian Environmental Protection Act, 1999.

Having a say is easy. Send an email to [substances@ec.gc.ca](mailto:substances@ec.gc.ca) with ideas or comments, or by mail to Program Development and Engagement Division, Science and Risk Assessment, Science and Technology Branch, Environment and Climate Change Canada, 351 Saint-Joseph Boulevard, Gatineau QC K1A 0H3 and include "Consultation – SOPR and RMS" in the subject line of your email or letter.

Let's all take 10 minutes to change our future. Think about practical and transparent solutions like banning these chemicals except for only emergency use. The EU is contemplating this exception and defining what constitutes an "emergency use".

When the EU or other countries do go that route or completely ban, remember that products and food containing "forever chemicals" that we manufacture at home in Canada may be banned. It's probably a really good idea for all of our businesses to be ready for this eventuality.



Uses of chemical PFAS notified under the NSNR since 1994. Percentage of total notified uses for notifications.

It's sounding like a good idea to ban these "forever chemicals" from being manufactured in Canada or imported unless it's for emergency use. Or maybe we'll have to ban the use completely? I'm no expert but there we may not be able to compromise in this case.

One of the solutions to help with every day life is making it mandatory that companies list any of these 4,700 chemicals they have already used in their manufacturing processes, or have been sold to us already so that we can make an informed decision on how to dispose of these products we've already bought.

The federal and provincial-territorial governments will also need to address the mess we've already made.

That means before we rush out to replace everything we own let's not run to our land fill right away. First we need to ask our legislators to make a separate category for these "forever chemicals" but most importantly fund our municipal land fills so that they can collect and transfer our stuff like our fast food containers, clothes and couches that we dump by the thousands every year instead to a hazardous waste facility compared to burying our problem.

Most importantly funding our water and waste treatment so that cities and towns can break the bonds of all of these toxic forever chemicals and filter our water making it PFAS-free.

Those of us living in rural Canada who drink from a fresh water source like a river or aquifer should ask our leaders to help us figure out the technology on how to filter our drinking water and our waste. Maybe a reverse osmosis system is the way to go, but that just results in another problem, what do we do with these chemicals after filtering?

Enforce the requirement to have a “certified non-toxic” label alongside a complete ingredient list on a label and on-line in a safety data sheet for each product. It’s not mandatory right now and companies can even make an argument they don’t need to since a formula may be protected under patent laws. But we have rights too!

Also keep in mind these “forever chemicals” may not be used in a product, instead, PFAS may be part of the equipment or building where these products are manufactured or bought from.

A couple of other things to think about. Maybe our household items don’t break down easily affecting the air or particles we breathe in our homes and business. Ask for this information and ask what we can do?

Ask our leaders, how long do we have before replacing these household items like our water and stain -resistant carpets or clothes? Is there a best before safety date rather than basing our remodelling on a best before design date?

Since these chemicals accumulate over time, getting these PFAS out of our bodies is something that we will need help with from our medical professionals for decades to come; this should be considered too.

This mess we’ve created is about 85 years old and unfortunately there is no quick fix, but we’ll have to remind our politicians at all 3 levels of government we have to start now to get the get the job done. Our future depends on action.