

toxic nation

or Why Kids Need More Organic Food!



toxic nation

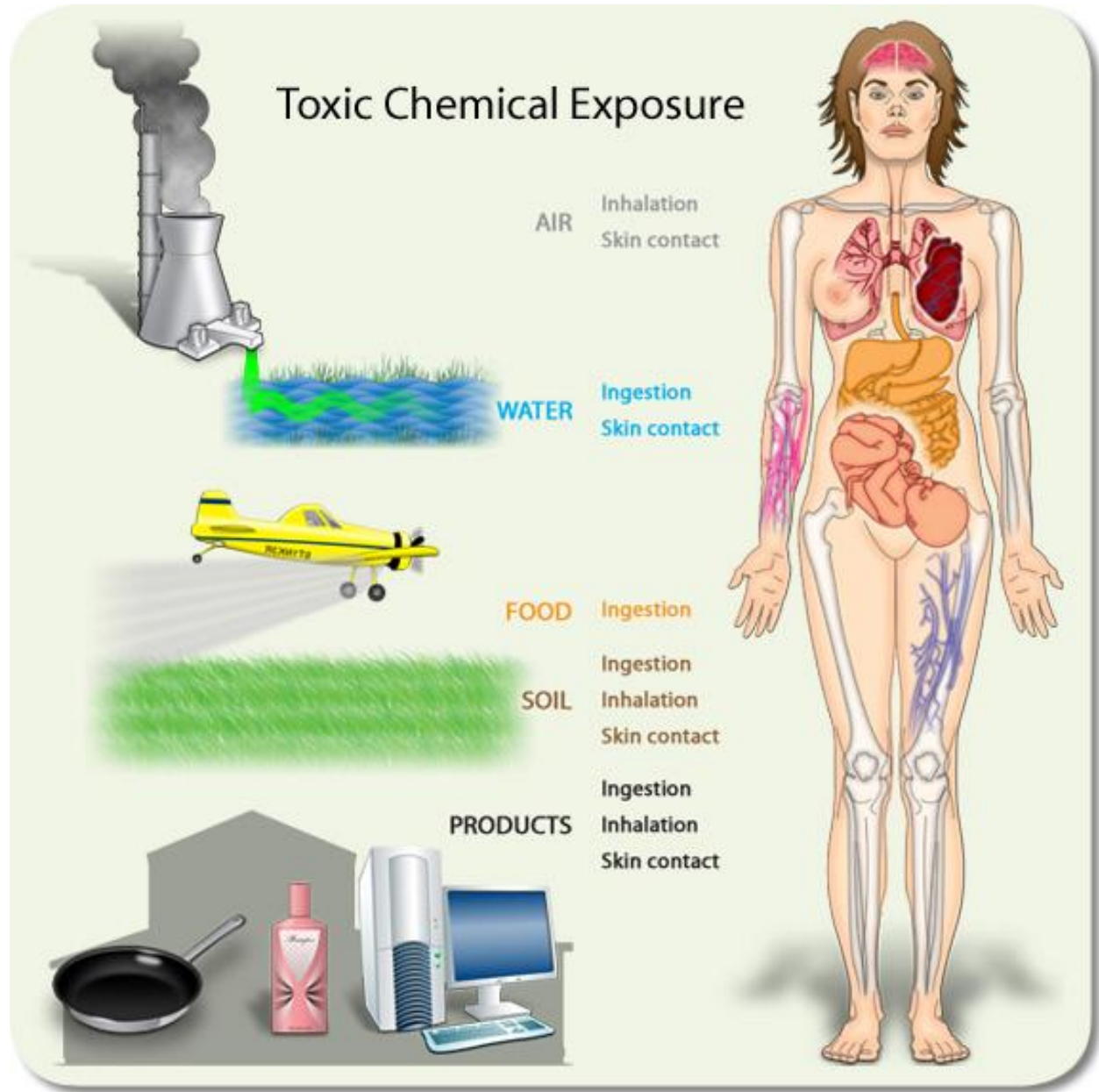
The logo for 'toxic nation' features the words in a bold, lowercase, sans-serif font. The word 'toxic' is in a dark green color, and 'nation' is in a lighter green. Above the 'n' in 'nation', there is a stylized graphic of smoke or steam rising from the top of the letter, also in the same lighter green color.

- Toxic Nation is a campaign started by Environmental Defence to target toxic chemical and their impacts on human health.
- Through Toxic Nation, we're letting Canadians know how toxics make their way into our bodies, and what individuals can do to limit their exposure to toxic chemicals.
- We're also calling on the federal government to better protect Canadians from toxic chemicals by improving the Canadian Environmental Protection Act (CEPA, 1999).

Why is NOW the time for Toxic Nation?

- **Pollution in Canada is not improving.** Industry is not reducing its emissions effectively and continues to release millions of kgs of toxic chemicals into the environment every year.
- **Many diseases and disorders that are linked to chemical exposure have been increasing.** Since 1987, cancer rates have increased by 54%, asthma, particularly in children, has increased fourfold since the 1980s.
- **Similar studies in the U.S. and the U.K. have detected a wide variety of toxic chemicals in participants.** These studies have played a significant role in getting action in toxics reduction.
- **The Canadian Environmental Protection Act, Canada's national pollution law, is currently under mandatory review.** We have a window of opportunity over the next 18 months to strengthen the legislation.

**How does
pollution
enter our
bodies?**



Toxic Nation Adult Study

Tested 11 Canadians from across the country for 88 chemicals in their blood and urine.

- **Heavy metals**, such as lead, mercury, arsenic, cadmium
 - Known carcinogens, reproductive/developmental toxins, suspected hormone disruptors and respiratory toxins
- **PBDEs** (polybrominated diphenyl ethers)
 - Used as flame retardants in furniture, carpets, mattresses, electronics, etc.
 - Highly persistent and bioaccumulative
 - Suspected hormone disruptors, carcinogens, reproductive/developmental toxins

- **PCBs (polychlorinated biphenyls)**
 - Banned in Canada since 1977, but PCB-containing industrial equipment is still in use.
 - Carcinogenic, reproductive/developmental toxins, hormone disruptors, decreased immune system

- **PFCs (perfluorinated chemicals, such as PFOA and PFOS)**
 - Used in the making of non-stick and stain repellent surface coatings on products like frying pans, carpets, and fast food packaging.
 - Persistent in the environment, likely carcinogenic and hormone disruptor

- **Organochlorine pesticides**
 - Mainly used in agriculture on fruits and vegetables
 - Persistent and bioaccumulative, carcinogenic, reproductive/developmental toxins, suspected hormone disruptors and respiratory toxins

- **Organophosphate insecticides**
 - Variety of uses on lawns, agricultural crops, and mosquito and pest control
 - Suspected carcinogens and reproductive/developmental toxins

- **VOCs (volatile organic compounds)**
 - Common ingredients in paints, varnishes, solvents, adhesives and gasoline
 - Carcinogenic, suspected hormone disruptors, respiratory and reproductive/developmental toxins

Results of the Adult Study

Laboratory tests detected 60 of the 88 chemicals tested, including:

- 18 heavy metals
- 5 PBDEs
- 14 PCBs
- 1 perfluorinated chemical
- 10 organochlorine pesticides
- 5 organophosphate insecticides
- 7 VOCs

- On average, 44 chemicals were detected in each volunteer
- In total:
 - 41 carcinogens
 - 27 hormone disruptors
 - 21 respiratory toxins
 - 53 reproductive developmental toxins
- Other key findings:
 - A First Nations volunteer from northern Quebec had the highest levels of mercury and persistent organic pollutants, such as PCBs and organochlorine pesticides like DDT.
 - Compared to older volunteers, the younger individuals in the study had lower levels of fewer PCBs, which were banned in 1977. This suggests that bans on harmful chemicals can be successful in decreasing peoples exposure.

Toxic Nation Family Study

Environmental Defence tested 7 children and 6 adults from five Canadian families from across the country.

Every volunteer was tested for 68 chemicals, including:

- PFCs (perfluorinated chemicals)
- PBDEs (polybrominated diphenyl ethers)
- PCBs (polychlorinated biphenyls)
- Organochlorine pesticides
- Organophosphate insecticide metabolites
- Heavy metals (lead, mercury, arsenic, cadmium, and manganese)
- PAHs (polycyclic aromatic hydrocarbons)

Results of the Family Study

- Laboratory tests detected 46 of the 68 chemicals tested for.
- On average 32 chemicals were detected in each parent, and 23 chemicals were detected in each child.
- In total, 38 carcinogens, 23 hormone disruptors, 12 respiratory toxins, 38 reproductive/developmental toxins, and 19 neurotoxins were detected in the study volunteers.
- Three chemicals for which there is no data on health effects were detected; all three are PFCs.

Key Findings

- In general, the children had lower levels of older chemicals that were banned before they were born, such as PCBs and organochlorine pesticides (i.e. DDT).
- There were several cases where the children were *more* polluted than their parents by chemicals that are still in use, particularly PFCs and PBDEs.

Pesticides Found

- In total, of the 19 OCP and OPIM chemicals that were tested for, volunteers tested positive for 15 in the first Toxic Nation Study.
- Adult volunteers in the Toxic Nation Family Study tested positive for 13 of the 19 OCPs and OPIMs, and children volunteers tested positive for 10.

Response to the Toxic Nation studies

- Most of the feedback from the media and the public was positive.
- The negative feedback, especially from industry, focused on:
 - The small sample size
 - Lack of clarity about what the low levels detected mean for the health of the volunteers, or the general public

What Can Be Done?

Consumer and Citizen Action

- Learn about what toxic chemicals are so you can identify and avoid them.
- Choose safer consumer products—that includes everything from shampoo, cleaning products, computers and sofas, to frying pans. **AND EAT MORE ORGANIC FOODS!**
- Spread the word about toxic chemicals—share what you've learned with friends and family so they can take action too.
- Make yourself heard—if you are concerned about toxic chemicals, let industry and government know.

Toxics Chemical Policy

- In Canada, the regulation of toxic chemicals falls primarily under **federal jurisdiction**.
- The federal departments responsible for administering toxics-related policy are **Health Canada** and **Environment Canada**.
- The major pieces of legislation dealing with toxic chemicals are:
 - **Canadian Environmental Protection Act (CEPA, 1999)**
 - **Pest Control Products Act**
 - **Hazardous Products Act**
- At the international level, the **Stockholm Convention on Persistent Organic Pollutants** is a global treaty on toxic chemicals, under which governments are required to take measures to eliminate or reduce the release of POPs into the environment.

About the Canadian Environmental Protection Act (CEPA)

- CEPA is the overarching national toxic chemicals law.
- It regulates the **manufacture, marketing, use, transport and disposal** of toxic chemicals.
- **Guiding Principles:**
 - Pollution prevention
 - Virtual elimination of all persistent and bioaccumulative substances
 - Control and management of pollutants if their release into the environment cannot be prevented
 - Precautionary principle

What's wrong with CEPA?

In reality:

- The precautionary approach is rarely used
- Less than 10% of chemicals on the market will ever be safety tested
- When a chemical is identified as being potentially toxic it can take over a decade just to complete its risk assessment.
- To date, only 5 pollution prevention plans have been developed and none have been implemented.
- Only one substance has been subjected to virtual elimination.
- Canadians continue to be contaminated by thousands of harmful chemicals on a daily basis.

Environmental Defence/CELA's recommendations for the CEPA review

- Establish mandatory **timelines** to virtually eliminate the use of toxic chemicals.
- **Make industry accountable** for its chemicals
 - Industry must prove the safety of its chemicals before their introduction or continued use on the market
 - Industry must adopt a safe substitution policy to replace toxic substances with safe alternatives.
- Regulate toxic chemicals in **consumer products**.
- Reduce pollution in the **Great Lakes basin** (45% of Canada's total toxic air pollution is emitted in the basin)

Web Resources

- Environmental Defence's Toxic Nation web site
www.toxicnation.ca
- Canadian Environmental Law Association
www.cela.ca
- Guide to Less Toxic Products
www.lesstoxicguide.ca
- Clean Production Action
www.cleanproduction.org