

# What are Unintentional POPs (UPOPs)?

Unintentional Persistent Organic Pollutants (UPOPs) are emitted as the by-product of chemical or combustion processes involving organic matter and chlorine. They can also be produced as the by-products of manufacturing other chemicals.

The UPOPs listed under the Stockholm Convention are:

- Polychlorinated dibenzo-p-dioxins (dioxins)
- Polychlorinated dibenzofurans (furans)
- Hexachlorobenzene (HCB)
- Hexachlorobutadiene (HCBD)
- Pentachlorobenzene (PeCB)
- Polychlorinated biphenyls (PCBs)
- Polychlorinated naphthalenes (PCNs)

# Why Protect Yourself?

Once formed, UPOPs may be released to several environmental media (air, water and land) and process outputs (products and residues). Food (particularly from animals) is the major route of exposure for humans.

Short-term exposure of humans to high levels of UPOPs may result in skin lesions such as chloracne, patchy darkening of the skin, and altered liver function. Long-term exposure is linked to impairment of the immune system, the developing nervous system, the endocrine system, and reproductive functions.

The developing foetus is most sensitive to UPOPs exposure. Newborns, with rapidly developing organ systems may also be more vulnerable to certain effects.

Some people may be exposed to higher levels of dioxins because of their diet (such as high consumers of fish in certain parts of the world) or their occupation (such as workers in the pulp and paper industry, in incineration plants and at hazardous waste sites).

Together we can be free of  
**UPOPs**

Contact the following near you for support  
on combatting these pollutants.

Environmental Management Authority

Waste Management Agency

Local Recyclers



Learn More Today! [stopthepops.com](http://stopthepops.com)



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Safeguard yourself from  
**UPOPs**



In your backyard or even at the dinner table, you  
may be in contact with **Unintentional Persistent  
Organic Pollutants (UPOPs)** and not even know it.

# Common Exposure Pathways

Watch out for the following as they may produce UPOPs



## Open Burning

Burning of certain materials can lead to the generation of unintentional POPs.



## Contaminated Food Sources

Eating meat from contaminated animals that dwell near or around landfills and dump sites can pose serious health risks.



## Poor Waste Management

Mixing of waste when practicing open burning and comingling of waste at landfills can result in exposure to UPOPs through inhalation.



## Burning of Copper Cables

The burning of cable wires for copper recovery can lead to the direct inhalation of UPOPs.



## Contaminated Water Sources

Potential exposure due to the use of irrigation water from areas downstream of landfills or other contaminated sites.

# STOP THE POPs!

Identify, Learn & Act!



The truth is, danger lurks where you least expect it.

Understanding the dangers of UPOPs

### Identify

The sources and uses of POPs/UPOPs.



### Learn

How you and your family are exposed and affected.



### Act

By minimising your exposure.

[www.stopthepops.com](http://www.stopthepops.com)

# How To Reduce Exposure

Follow these tips to protect yourself

- ✓ Avoid placing hazardous waste (electronic, medical, tyres, oils, metals, cables) in general waste for collection or disposal.
- ✓ Compost food scraps and garden waste.
- ✓ Refrain from burning household waste. If burning green waste, do not mix with other material (plastics, electronics, appliances, metals, glass).
- ✓ Practice responsible waste reduction, reuse, and recycling.
- ✓ Trimming fat from meat and consuming low-fat dairy products may decrease the exposure to hazardous compounds.
- ✓ Eating a balanced diet (including adequate amounts of fruits, vegetables and cereals) to help avoid excessive exposure from a single source.
- ✓ Avoid consumption of foods grown on or around potentially contaminated areas.
- ✓ Avoid burning for copper recovery from cable wires.

