



Persistent Organic Pollutants

Sources - Local

Impacts - Local, Regional & Global

Prevention - Global Action

Stockholm Treaty on Persistent Organic Pollutants

Twelve Initially Targeted POPs

Aldrin

Dieldrin

Mirex

Chlordane

Endrin

DDT

Heptachlor *

Toxaphene

Hexachlorobenzene (HCB)

Polychlorinated biphenyls (PCBs)

Chlorinated Dioxins (PCDDs)

Chlorinated Furans (PCDFs)

PERSISTENT ORGANIC POLLUTANTS ARE ...

... TOXIC. POPs CAUSE HARM TO PEOPLE AND OTHER LIVING CREATURES BY INTERFERING IN THEIR BODIES' BIOLOGICAL PROCESSES. FOR SOME, SUCH AS DIOXINS, THERE IS NO SAFE LEVEL OF EXPOSURE.

... LIPOPHILIC, OR 'FAT-LOVING.' AS POPs MOVE THROUGH THE ENVIRONMENT, THEY CONCENTRATE IN FATS AND OILS, SUCH AS THOSE IN PEOPLE'S BODIES.

... PERSISTENT. POPs ARE VERY STABLE. THEY DO NOT BREAK DOWN READILY AS THEY MOVE THROUGH THE ENVIRONMENT OR WHEN THEY ARE CAPTURED IN THE FATTY TISSUES OF LIVING CREATURES.

Health Effects of POPs

DDT

- Possible human carcinogen
- Reproductive failure in wildlife
- Liver damage
- Central nervous system disorders

Toxaphene

- Possible human carcinogen
- Reproductive/developmental effects
- Disrupts hormone function
- Damages lungs, kidneys, and nervous and immune systems

Aldrin/Dieldrin/Endrin

- Probable human carcinogen (Aldrin/Dieldrin)
- Immune system suppression
- Nervous system disorders
- Reproductive damage
- Liver damage
- Birth defects: abnormal bone formation in animals (Endrin)
- Disrupts hormone function
- Kidney damage

Chlordane/Heptachlor

- Possible human carcinogen
- Liver damage
- Central nervous system disorders

Mirex

- Possible human carcinogen
- Suppresses immune system
- Liver damage
- Damages stomach, kidneys, eyes, thyroid, nervous and reproductive systems.

Health Effects of POPs

PCBs

- Probable human carcinogen
- Chloracne and other skin disorders
- Liver damage
- Neurodevelopmental effects: reduced cognitive function, short term memory and spatial effects
- Disrupts hormone functions

Hexachlorobenzene

- Possible human carcinogen
- Disrupts hormone function
- Liver damage
- Damages thyroid, kidneys, blood and immune system

Health Effects of POPs

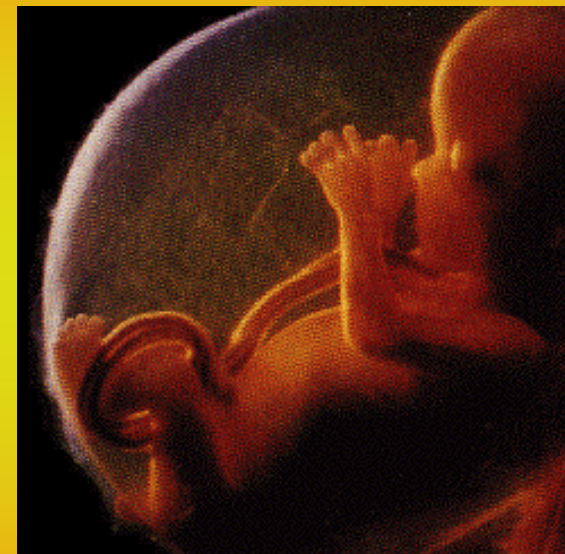
Dioxins/Furans

Dioxin (2,3,7,8-TCDD) is a human carcinogen, while the other dioxins and furans are possibly carcinogenic in humans

- Neurodevelopmental effects: reduced cognitive function, increase in hyperactive behavior, adverse effects on attentional processes, increased prevalence of withdrawn/depressed behavior
- Altered immune function
- Central nervous system disorders
- Chloracne and other skin disorders
- Disrupts liver and kidney function
- Alters hormone levels: thyroid, testosterone and estrogen
- Reproductive effects: altered sex ratio, reduced fertility
- Birth defects: hypospadias
- Endometriosis

POPs EXPOSURE ...

... BEGINS AT CONCEPTION AND CONTINUES DURING GESTATION AND BREASTFEEDING

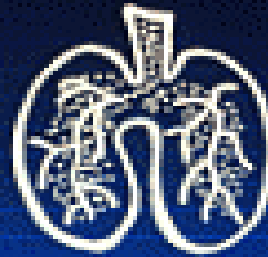
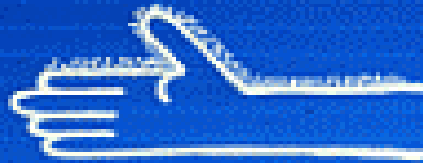


HOW ARE YOU EXPOSED TO POPs ?



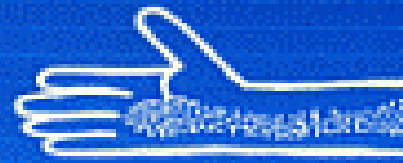
Ingestion

Skin Contact



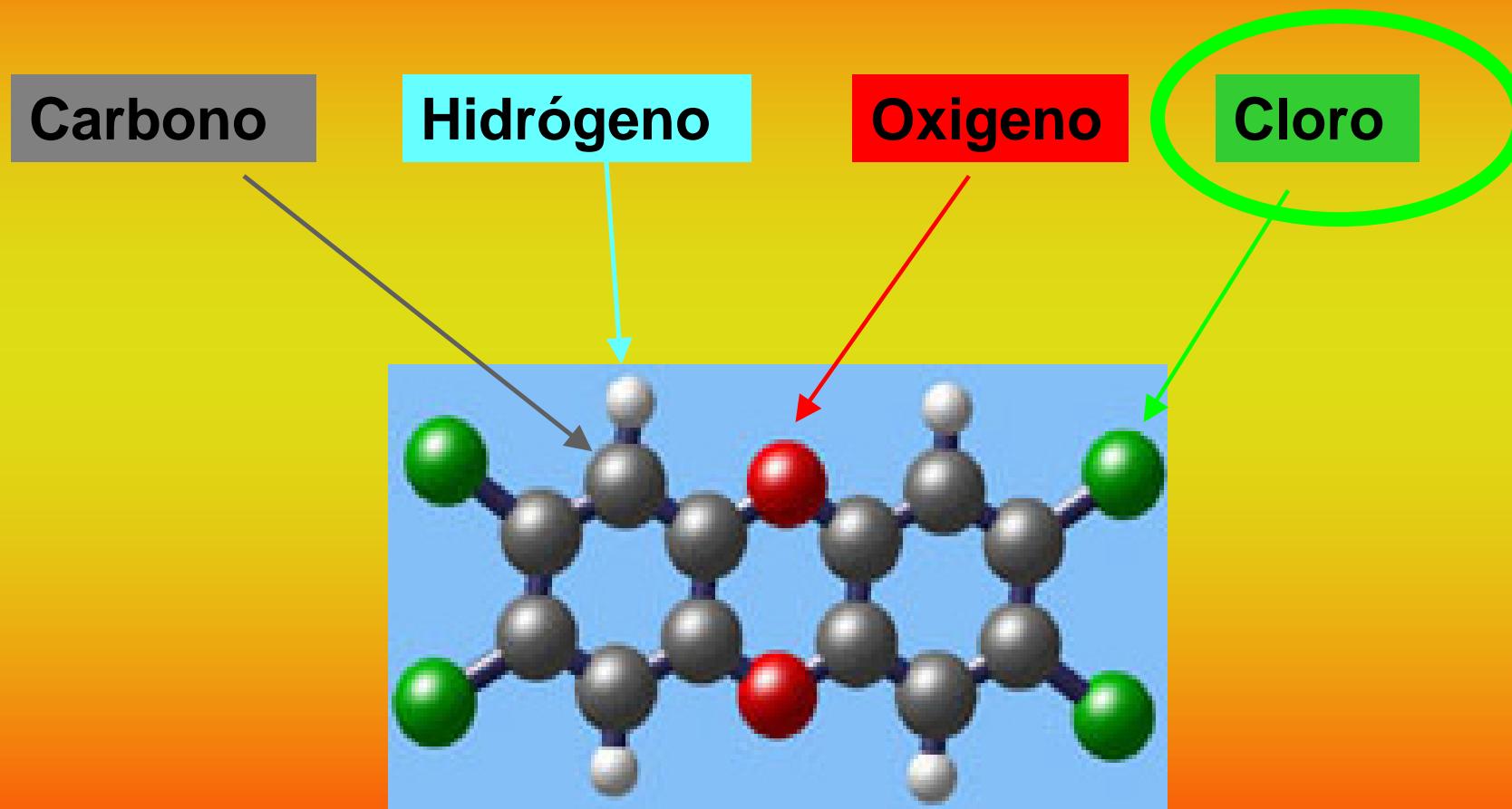
Inhalation

Skin Absorption



LAS DIOXINAS

subproductos de combustión y química



2,3,7,8-TETRACHLORODIBENZO-*p*-DIOXIN

A SCIENTIFIC CERTAINTY:

DIOXINS ARE FORMED ONLY WHEN
CHLORINE IS PRESENT

“PCDD/F [dioxins] are emitted from thermal processes involving organic matter and chlorine as a result of incomplete combustion or chemical reactions.”

Source: LRTAP, Annex V, Best Available Techniques to Control Emissions of Persistent Organic Pollutants from Major Stationary Sources, Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution on Persistent Organic Pollutants.

Las fuentes de las dioxinas

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- WASTE INCINERATION
- FERROUS AND NON-FERROUS METAL PRODUCTION
- POWER GENERATION AND HEATING
- MINERAL PRODUCTS
- TRANSPORT
- UNCONTROLLED COMBUSTION
- CHEMICAL PRODUCTION
- MISCELLANEOUS
- DISPOSAL / LANDFILL
- HOTSPOTS / RESERVOIRS



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**IF MORE CHLORINE GOES
INTO AN INCINERATOR
DOES MORE DIOXIN
COME OUT?**

