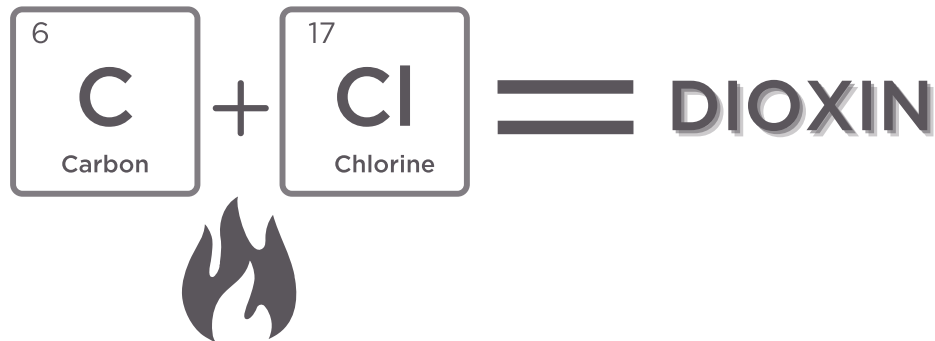


DIOXINS AND PROTECTING YOUR HEALTH

What is Dioxin?

A group of compounds formed as a byproduct during the heating of organic compounds in the presence of chlorine.



Where are Dioxins Found?

Dioxins are found everywhere! In fact, the World Health Organization states that 90 percent of human exposure is through food. Dioxins are commonly found in the materials listed on the right. Although Dioxins are common, only a small number of dioxin types have significant toxicity.

DIOXINS CAN BE FOUND IN:



WATER



DAIRY



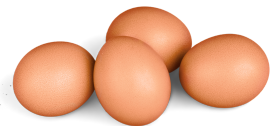
AIR



FISH



SOIL



EGGS



MEAT



SEED/FEED CROPS

Potential Human Health Effects

- Reproductive and developmental problems
- Damage to the immune system
- Interference with hormones
- May cause cancer

What Causes Toxic Dioxins and How do They Get There?

The heating or combustion of industrial chemicals and manufactured products creates toxic dioxins. Exposure to toxic dioxins can occur through ingestion or breathing in the toxins.

Dioxins can occur from sources such as forest fires, volcanic eruptions, wood burning, trash combustion, diesel combustion, gasoline combustion and medical waste combustion. A common example of how dioxins are created is by burning garbage in a burn barrel.

Toxic dioxins are also a byproduct of manufacturing such as wood treating, pesticides and pulp & paper mills.



Want to learn more about dioxins and their effects on health?

- For more information on toxic dioxins, visit the Centers for Disease Control and Prevention at: [cdc.gov](https://www.cdc.gov)

SUPERFUND SITE: MONTANA POLE

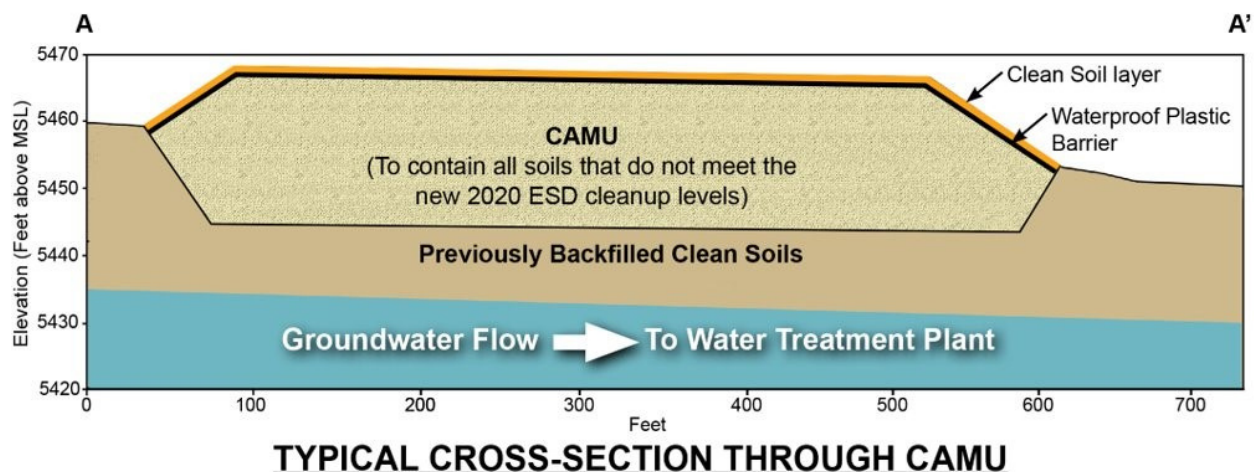
Dioxins have been identified at the Montana Pole and Treating Plant Superfund site as a result of the wood treating process that occurred at the facility.



Where are Dioxins at the Site and How do You Get Rid of Them?

Dioxins either bind to soil particles immediately or travel with a chemical such as pentachlorophenol, used for wood treating. Since Montana Pole was a wood treating site, dioxins are found in the soil along with pentachlorophenol and products used to treat wood. The dioxins at the Montana Pole site were treated and degraded significantly as a result of the treatment, however it was not enough to meet the cleanup levels. Unfortunately, dioxins don't degrade completely over time or evaporate, making them difficult to treat.

Treatment options for dioxins are limited, but include land disposal or capping. A Corrective Action Management Unit (CAMU) has been identified as a remedy for the remaining dioxins at the Montana Pole site to meet the new cleanup level. The soils contaminated with dioxins will be placed in a designated area and covered using an engineered cap to protect human health and the environment. The treated soils area, or CAMU, will be managed by the Department of Environmental Quality to ensure it remains protective, while the remaining 27 acres outside the CAMU on the south side of the site can be used for industrial use.



Dioxins can also enter into groundwater. The Montana Pole site has a water treatment plant that is currently pumping and treating groundwater as intended. Discharge from the water treatment plant currently meets all cleanup levels, including dioxins.

What Levels of Dioxins are Safe at the Montana Pole Site?

Risk assessments for dioxin are based on long-term exposure. In order to reach toxic dioxin levels for an industrial worker at the Montana Pole site, they would have to be exposed to 30 parts per trillion a day for 25 years. This is based on visiting the site 150 days a year. Based on risk assessments, casual visitors to the site would have very low exposure and therefore are at low risk. Exposure can include inhalation of dust particles, oral ingestion or contact with skin.

How Much Dioxin Exposure Does it Take to Reach Toxic Levels for an Industrial Worker Onsite 150 Days a Year?



An Industrial Worker



Exposed to 30 Parts Per Trillion a Day



For 25 Years

The soils that contain dioxin, however, will be placed into a CAMU therefore cutting off the exposure and making the site protective for anyone working at the site or visiting.



Soil Placed in CAMU



Site Protective for Workers and Visitors

How Can I Protect Myself from Dioxins?

DEQ is placing the dioxins into a capped area to protect the public from the dioxins. During construction, best management practices will be in place to manage dust, odor and the spread of contaminants. Keeping doors and windows closed during construction could be an added measure of protection.

Dioxins are also located in food. The World Health Organization suggests trimming fat from meat and consuming low fat dairy products to help decrease the exposure to dioxins.