



## 2,3,7,8-TCDF (TETRAFURAN)

### What is 2,3,7,8-TCDF (TETRAFURAN)?

2,3,7,8-TCDF, also called tetrafuran, is a very harmful chemical. It is one of the 135 different types of chlorinated dibenzofurans.

### Where can 2,3,7,8-TCDF be found and how is it used?

There is no known use for these chemicals. They are not purposely made by industry, except for research. Most 2,3,7,8-TCDF is created as by-products of processes such as producing other chemicals or bleaching paper.

### How can people be exposed to 2,3,7,8-TCDF?

*You could be exposed to 2,3,7,8-TCDF through:*

**Breathing** air containing 2,3,7,8-TCDF, such as near a waste site or near a site whose process produces 2,3,7,8-TCDF, such as a chemical plant or a pulp mill.

**Eating** food containing 2,3,7,8-TCDF.

**Drinking** water or other liquids containing 2,3,7,8-TCDF. This could occur from drinking liquids that have 2,3,7,8-TCDF in them from contact with their containers. Milk cartons are one example.

**Touching** soil containing 2,3,7,8-TCDF, such as at a waste site or by touching chemicals that produce 2,3,7,8-TCDF.

**Eye contact** from soil containing 2,3,7,8-TCDF drifting into the eyes.

### How does 2,3,7,8-TCDF work and how can it affect my health?

There is very little information on the human health effects of 2,3,7,8-TCDF. Most available information comes from animal studies. Animals acutely exposed suffer severe weight loss, irritated eyelids, and a loss of eyelashes and fingernails. Exposure can impact the way enzymes work in the body, and it can affect the endocrine system. There is also a risk of developing diabetes. TCDF may cause birth defects such as cleft palate.

### How is 2,3,7,8-TCDF poisoning treated?

There is no treatment just for 2,3,7,8-TCDF poisoning. A doctor will suggest treatment based on the symptoms.

### What should I do if exposed to 2,3,7,8-TCDF?

**If you touch 2,3,7,8-TCDF**, clean the area with mineral oil right away to remove as much of the compound as possible. Clean for at least 10 minutes. Get medical help.

**If you get 2,3,7,8-TCDF in your eyes**, flush immediately with large amounts of water. Get medical help right away.

**If you breathe 2,3,7,8-TCDF**, move to fresh air. Get medical help right away. If an exposed person stops breathing, perform mouth-to-mouth resuscitation.

**If you swallow 2,3,7,8-TCDF**, get medical help right away.



## What factors limit use or exposure to 2,3,7,8-TCDF?

Most exposure to 2,3,7,8-TCDF is through eating food containing TCDF. Since TCDF builds up in fat, eating a low fat diet limits exposure. Limit exposure by avoiding waste sites.

## Is there a medical test to show whether I've been exposed to 2,3,7,8-TCDF?

Medical tests can determine the chemical in blood, body fat and breast milk but cannot pinpoint the length of time of exposure, or the amount of the chemical.

## Technical information for 2,3,7,8-TCDF

CAS Number: 51207-31-9

Chemical Formula: C<sub>12</sub>H<sub>4</sub>Cl<sub>4</sub>O

Carcinogenicity (EPA): EPA has not classified 2,3,7,8-TCDF for carcinogenicity.

MCL (Drinking Water): There is no MCL for 2,3,7,8-TCDF.

OSHA Standards: There are no OSHA standards for 2,3,7,8-TCDF.

NIOSH Standards: There are no NIOSH standards for 2,3,7,8-TCDF.

## References and Sources

Agency for Toxic Substances and Disease Registry (ATSDR). 1994. *Toxicological profile for chlorodibenzofurans (CDFs)*. Atlanta, GA: U.S. Department of Health and Human Services.

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*NIOSH Pocket Guide to Chemical Hazards*. 2003. Atlanta, GA: U.S. Department of Health and Human Services.

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