

Consumer Factsheet on: 2,4-D

[List of Contaminants](#)

As part of the Drinking Water and Health pages, this fact sheet is part of a larger publication:
National Primary Drinking Water Regulations

This is a factsheet about a chemical that may be found in some public or private drinking water supplies. It may cause health problems if found in amounts greater than the health standard set by the United States Environmental Protection Agency (EPA).

What is 2,4-D and how is it used?

2,4-D is a colorless, odorless powder used as a herbicide for the control of broad-leaf weeds in agriculture, and for control of woody plants along roadsides, railways, and utilities rights of way. It has been most widely used on such crops as wheat and corn, and on pasture and rangelands.

The list of trade names given below may help you find out whether you are using this chemical at home or work.

Trade Names and Synonyms:

"Agent White"
Bladex-B
Brush Killer 64
Dicofur
Dormon
Ipaner
Moxon
Netagrone
Pielik
Verton 38
Mota Maskros
Silvaprop 1
Agricorn D
Acme LV4
Croprider
Fernesta
Lawn-Keep
Pennamine D
Plantgard
Tributon
Weed-B-Gon
Weedatul
Agroxone
Weedar
Salvo
Green Cross Weed-No-More 80
Red Devil Dry Weed Killer
Scott's 4XD
Weed-Rhap LV40
Weedone 100
2,4-Dichloro-phenoxyacetic acid

Why is 2,4-D being Regulated?

In 1974, Congress passed the Safe Drinking Water Act. This law requires EPA to determine safe levels of chemicals in drinking water which do or may cause health problems. These non-enforceable levels, based solely on possible health risks and exposure, are called Maximum Contaminant Level Goals.

The MCLG for 2,4-D has been set at 70 parts per billion (ppb) because EPA believes this level of protection would not cause any of the potential health problems described below.

Based on this MCLG, EPA has set an enforceable standard called a Maximum Contaminant Level (MCL). MCLs are set as close to the MCLGs as possible, considering the ability of public water systems to detect and remove contaminants using suitable treatment technologies.

The MCL has been set at 70 ppb because EPA believes, given present technology and resources, this is the lowest level to which water systems can reasonably be required to remove this contaminant should it occur in drinking water.

These drinking water standards and the regulations for ensuring these standards are met, are called National Primary Drinking Water Regulations. All public water supplies must abide by these regulations.

What are the Health Effects?

Short-term: EPA has found 2,4-D to potentially cause the following health effects when people are exposed to it at levels above the MCL for relatively short periods of time: nervous system damage.

Long-term: 2,4-D has the potential to cause the following effects from a lifetime exposure at levels above the MCL: damage to the nervous system, kidneys and liver.

How much 2,4-D is produced and released to the environment?

Production of 2,4-D was 45.1 million lbs in 1982. 1991 data indicates only that production exceeded 5000 lbs. Major environmental releases of 2,4-D are due to agricultural applications of systemic herbicides. It is also released as a result of the production or disposal of 2,4-D or its by-products.

From 1987 to 1993, according to EPA's Toxic Chemical Release Inventory, 2,4-D releases to land and water totalled over 116,000 lbs. These releases were primarily from cane sugar-related industries (except refineries). The largest releases occurred in Hawaii.

What happens to 2,4-D when it is released to the environment?

2,4-D is readily degraded by microbes in soil and water. Leaching to ground water may occur in coarse-grained sandy soils with low organic content or with very basic soils. In general little runoff occurs with 2,4-D or its amine salts. There is no evidence that bioconcentration of 2,4-D occurs through the food chain. This has been known from large-scale monitoring studies of soils, foods, feedstuffs, wildlife, human beings, and from other environmental cycling studies.

How will 2,4-D be Detected in and Removed from My Drinking Water?

The regulation for 2,4-D became effective in 1992. Between 1993 and 1995, EPA required your water supplier to collect water samples every 3 months for one year and analyze them to find out if 2,4-D is

present above 0.5 ppb. If it is present above this level, the system must continue to monitor this contaminant.

If contaminant levels are found to be consistently above the MCL, your water supplier must take steps to reduce the amount of 2,4-D so that it is consistently below that level. The following treatment methods have been approved by EPA for removing 2,4-D: Granular activated charcoal.

How will I know if 2,4-D is in my drinking water?

If the levels of 2,4-D exceed the MCL, 70 ppb, the system must notify the public via newspapers, radio, TV and other means. Additional actions, such as providing alternative drinking water supplies, may be required to prevent serious risks to public health.

Drinking Water Standards:

Mclg: 70 ppb

Mcl: 70 ppb

2,4-D Releases to Water and Land, 1987 to 1993 (in pounds):

TOTALS (in pounds)	Water 3,444	Land 113,358
Top Five States		
HI		73,679
FL		38,456
MO		4440
MI		822
TX		800
Major Industries		
Cane sugar		99,886
Agri. chems.		815
Plastics, resins		696
Misc. manufact.		400
Gen. Chemical		126

* Water/Land totals only include facilities with releases greater than a certain amount - usually 1000 to 10,000 lbs.

Learn more about your drinking water!

EPA strongly encourages people to learn more about their drinking water, and to support local efforts to protect and upgrade the supply of safe drinking water. Your water bill or telephone book's government listings are a good starting point.

Your local water supplier can give you a list of the chemicals they test for in your water, as well as how your water is treated.

Your state Department of Health/Environment is also a valuable source of information.

For help in locating these agencies or for information on drinking water in general, call: EPA's Safe Drinking Water Hotline: (800) 426-4791.

For additional information on the uses and releases of chemicals in your state, contact the: Community Right-to-Know Hotline: (800) 424-9346