Consumer Factsheet on: PARA-DICHLOROBENZENE (p-DCB)

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 p-DCB and how is it used?

Para-dichlorobenzene (p-DCB) is an organic solid of white crystals with a mothball-like odor. It is used mainly as an insecticidal fumigant against clothes moths and as a deodorant for garbage and restrooms. It is also used as an insecticide and fungicide on crops, and in the manufacture of other organic chemicals and in plastics, dyes, pharmaceuticals.

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:

Paradichlorobenzene
Paradichlorobenzol
Paramoth
Di-Chloricide
Paradi
Paradow
Persia-Perazol
Evola
Parazene

Why is p-DCB 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 p-DCB has been set at 75 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 75 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 p-DCB to potentially cause the following health effects when people are exposed to it at levels above the MCL for relatively short periods of time: nausea, vomiting, headaches, and irritation of the eyes and respiratory tract.

Long-term: p-DCB has the potential to cause the following effects from a lifetime exposure at levels above the MCL: anemia, skin lesions, appetite loss, damage to liver and changes in blood.

How much p-DCB is produced and released to the environment?

74 million lbs. of p-DCB were consumed by industry in 1986, and demand was predicted to increase. Chemical waste dump leachates and direct manufacturing effluents are reported to be the major source of p-DCB pollution in Lake Ontario.

From 1987 to 1993, according to the Toxic Release Inventory, p-DCB releases to water totalled almost 34,000 lbs. Releases to land totalled nearly 4,500 lbs. These releases were primarily from a single chemical manufacturing plant in West Virginia.

What happens to p-DCB when it is released to the environment?

p-DCB only moderately binds to soil so it may leach to ground water. Otherwise, it will evaporate and be slowly broken down by microbes. If released to water, it will largely evaporate. p-DCB is not likely to accumulate in most aquatic life, though it may in some fishes.

How will p-DCB be Detected in and Removed from My Drinking Water?

The regulation for p-DCB became effective in 1989. 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 p-DCB 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 p-DCB so that it is consistently below that level. The following treatment methods have been approved by EPA for removing p-DCB: Granular activated charcoal in combination with Packed Tower Aeration.

How will I know if p-DCB is in my drinking water?

If the levels of p-DCB exceed the MCL, 75 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: 75 ppb

Mcl: 75 ppb

p-DCB Releases to Water and Land, 1987 to 1993 (in pounds):

	Water	Land
TOTALS (in pounds)	**33,675**	**4,482**
Top Five States*		
WV	27,676	0
TX	1,280	3,132
DE	1,870	200
GA	750	0
LA	503	0
Major Industries		
Alkalies, chlorine	27,676	0
Industrial org. chem.	3,076	3,350
Agricultural chem.	750	0
Cyclic crudes, intermed.	600	0

* 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 books 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: EPAs 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.