

US EPA ARCHIVE DOCUMENT

Consumer Factsheet on: ETHYLENE DIBROMIDE

[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 EDB and how is it used?

Ethylene dibromide (EDB) is a colorless, heavy organic liquid with a mildly sweet chloroform-like odor. Ethylene dibromide is mainly used in anti-knock gasoline mixtures, particularly in aviation fuel. Other uses include: as a solvent for resins, gums, and waxes; in waterproofing preparations; in making dyes and drugs; and as a pesticide for grains and fruit.

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:

EDB
Glycol dibromide
Bromofume
Dowfume W 85
Aadibroom
Iscobrome-D
Nefis
Pestmaster
EDB-85
Soilbrom
Soilfume
Kopfume

Why is EDB 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 EDB has been set at zero 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 0.05 parts per billion (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 EDB to potentially cause the following health effects when people are exposed to it at levels above the MCL for relatively short periods of time: damage to the liver, stomach, and adrenal glands, along with significant reproductive system toxicity, particularly the testes.

Long-term: EDB has the potential to cause the following effects from a lifetime exposure at levels above the MCL: damage to the respiratory system, nervous system, liver, heart, and kidneys; cancer.

How much EDB is produced and released to the environment?

EDB is released during the use, storage, and transport of leaded gasoline, as well as during any spills; from its former use as a pesticide; wastewater and emissions from processes and waste waters of the chemical industries that use it.

From 1987 to 1993, according to the Toxics Release Inventory EDB releases to land and water totalled over 3,000 lbs. These releases were primarily from petroleum refineries. The largest of these releases occurred in California and Missouri.

What happens to EDB when it is released to the environment?

When spilled on land or applied to land during soil fumigation, ethylene dibromide may leach to groundwater. Its persistence can vary greatly from soil to soil, from a few weeks to as much as 19 years.

EDB released to water will mainly evaporate. It can be degraded by microbes and chemical reaction in some types of groundwater. It does not tend to accumulate in aquatic life.

How will EDB be Detected in and Removed from My Drinking Water?

The regulation for EDB 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 EDB is present above 0.01 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 EDB so that it is consistently below that level. The following treatment methods have been approved by EPA for removing EDB: Granular activated charcoal.

How will I know if EDB is in my drinking water?

If the levels of EDB exceed the MCL, 0.05 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: zero

Mcl: 0.05 ppb

EDB Releases to Water and Land, 1987 to 1993 (in pounds):

	Water	Land
TOTALS (in pounds)	2,554	2,670
Top Six States		
CA	500	
MS	500	
HI	750	
NJ	700	
TX	466	
PR	500	
Top Industrial Sources		
Petroleum refining		1,716
Industrial organic chemicals, fertilizers		700

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