Consumer Factsheet on: HEXACHLOROBENZENE

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 HCB and how is it used?

Hexachlorobenzene (HCB) is an organic solid of white crystalline needles. It is produced as a by-product from the manufacture of a variety of other regulated organic chemicals. It is also a contaminant in the production of some pesticides. The greatest use of HCB is in making other organic compounds such as rubber, dyes, wood preservatives. Other uses of include: as a fungicide on grains, especially wheat.

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:

Hexa CB
HCB
Phenyl perchloryl
Perchlorobenzene
Pentachlorophenyl chloride
Anticarie
Bunt-cure
Co-op hexa
Julin's carbon chloride
No bunt 40
No bunt 80
Sanocide
Snieciotox
Smut-go
Granox nm
Voronit C

Why is HCB 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 HCB 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 1 part 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 HCB to potentially cause the following health effects when people are exposed to it at levels above the MCL for relatively short periods of time: skin lesions, nerve and liver damage.

Long-term: HCB has the potential to cause the following effects from a lifetime exposure at levels above the MCL: damage to liver and kidneys; reproductive effects; benign tumors of endocrine glands; cancer.

How much HCB is produced and released to the environment?

In 1982, imports were reported to be 38,000 lbs, with no evidence of commercial domestic production. However, 2 to 5 million lbs may be generated each year as a waste by-product of chlorination processes in chemical manufacture.

Major environmental releases of HCB are due to air and water discharges from its production as a by-product of chemical manufacture, or from pesticide applications. It is also released by some waste incineration processes. It has been detected in treated waste water from non-ferrous metal manufacturing.

From 1987 to 1993, according to EPA's Toxic Chemical Release Inventory, HCB releases to land and water totalled 1,287 lbs., all of which was to water. These releases were primarily from alkali, chlorine and agricultural chemical industries. The largest releases occurred in Louisiana and Texas.

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

HCB is a very persistent environmental chemical due to its chemical stability and resistance to break down by microbes in soil or water. HCB strongly to soils and to lake and river sediments. It is not likely to migrate through soil to ground water.

Hexachlorobenzene will accumulate in fish. It has been detected in food during market basket surveys.

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

The regulation for HCB became effective in 1994. 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 HCB is present above 0.1 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 HCB so that it is consistently below that level. The following treatment methods have been approved by EPA for removing HCB: Granular activated charcoal.

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

If the levels of HCB exceed the MCL, 1 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: 1 ppb

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

	Water	Land
TOTALS (in pounds)	**1,286**	**1**
Top States		
LA	677	
TX	609	
Major Industries		
Alkalies, chlorine		854
Agricultural chemicals		297

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