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Consumer Factsheet on: LINDANE

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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 Lindane and how is it used?

Lindane is a white crystalline organic solid. Most uses being restricted in 1983, lindane is currently used primarily for treating wood-inhabiting beetles and seeds. It is also used as a dip for fleas and lice on pets, and livestock, for soil treatment, on the foliage of fruit and nut trees, vegetables, timber, ornamentals and for wood protection.

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:

gamma-Hexachlorocyclohexane
Exagamma
Forlin
Gallogamma
Gammaphex
Inexit
Kwell
Lindagranox
Lindaterra
Lovigram
Silvanol

Why is Lindane 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 lindane has been set at 0.2 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 0.2 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 lindane to potentially cause the following health effects when people are exposed to it at levels above the MCL for relatively short periods of time: high body temperature and pulmonary edema.

Long-term: Lindane has the potential to cause the following effects from a lifetime exposure at levels above the MCL: liver and kidney damage.

How much Lindane is produced and released to the environment?

Lindane enters surface water as a result of runoff from agricultural land and from home and garden applications where it is used as an insecticide.

From 1987 to 1993, according to EPA's Toxics Release Inventory, lindane releases to land and water totalled 1115 lbs.

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

When released to water, lindane is not broken down by microbes, but it is attacked by chemicals in basic waters. It is degraded by soil microbes, and may evaporate from the surface, or slowly leach to ground water. Lindane will accumulate slightly in fish and shellfish.

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

The regulation for lindane 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 lindane is present above 0.02 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 lindane so that it is consistently below that level. The following treatment methods have been approved by EPA for removing lindane: Granular activated charcoal.

Dave

HP4240 LaserJet Prints for the Month of October 09

Project #	# Prints	Name	Project #	# Prints	Name
1563	9	JLC			
1003	12	JLC			
0900	15	KMB			
1563	2	JLC			
0001	3	JLC			
1517	20	KMB			
1003	10	LS			
1445	40	IAN			
1003	10	LS			
1563	2	JLC			
1370	50	KMB			

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

If the levels of lindane exceed the MCL, 0.2 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: 0.2 ppb

Mcl: 0.2 ppb

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

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URL: http://www.epa.gov/OGWDW/contaminants/dw_contamfs/lindane.html