Dinoseb

What is dinoseb and how is it used?

Dinoseb is an organic solid - yellowish crystals with a pungent odor. Its greatest use is as a contact herbicide for post-emergence weed control in cereals, undersown cereals, seedling lucerne and peas. Dinoseb is also used as a corn yield enhancer and an insecticide and miticide.

Why is dinoseb 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 dinoseb has been set at 7 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 7 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 dinoseb to potentially cause the following health effects when people are exposed to it at levels above the MCL for relatively short periods of time: sweating, headache, mood changes.

Long-term: Dinoseb has the potential to cause the following effects from a lifetime exposure at levels above the MCL: decreased body and thyroid weight, degeneration of testes; thickening of intestinal lining.

How much dinoseb is produced and released to the environment?
1982 production of dinoseb was reported as 6.2 million pounds, used primarily on soybeans and vegetables. Release of dinoseb has resulted primarily from its use as an herbicide on a variety of weeds.

**What happens to dinoseb when it is released to the environment?**

Dinoseb is degraded slowly by soil bacteria and binds weakly to soil. Therefore, leaching in soil is possible and dinoseb has been detected in groundwater. In water, dinoseb is mainly broken down by sunlight. It is not likely to accumulate in aquatic life.

**How will dinoseb be detected in and removed from my drinking water?**

The regulation for dinoseb 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 dinoseb is present above 0.2 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 dinoseb so that it is consistently below that level. The following treatment methods have been approved by EPA for removing dinoseb: Granular activated charcoal.

**How will I know if Benzo(a)pyrene is in my drinking water?**

If the levels of dinoseb exceed the MCL, 7 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.

---

*This factsheet was adapted from U.S. EPA. Last updated September 2002*