

Acetochlor and Drinking Water

Summary

Acetochlor is an herbicide that has been detected in Minnesota water. Most detections of acetochlor in Minnesota ground water and surface water have been below the Minnesota Department of Health (MDH) Health Based Value (HBV) of 20 micrograms per liter (parts per billion [ppb]). Minnesotans are not likely to experience health effects from the levels of acetochlor found in the environment.

Acetochlor

Acetochlor is an herbicide used to control grasses and broadleaf weeds. Large amounts of acetochlor are currently used in U.S. agriculture. Acetochlor is widely used on corn crops in Minnesota and sometimes on soybean crops.¹ Minnesota Department of Agriculture (MDA) sales data show acetochlor sales increased in Minnesota between 2009 and 2014.² Acetochlor breaks down into two chemicals (degradates): acetochlor OXA and acetochlor ESA.

Acetochlor in Minnesota Waters

Acetochlor is found more often in Minnesota surface water than in ground water. In 2015, the highest level of acetochlor MDA detected in surface water was 12.1 ppb in the southwest portion of the state.³ MDA rarely detects acetochlor in groundwater. All groundwater detections of acetochlor have been well below the MDH HBV.⁴

Acetochlor has not been detected in public water systems at reportable levels. In general, acetochlor degradates are found more often and at higher levels in Minnesota waters than acetochlor.

MDH Guidance Value

Based on available information, MDH developed a guidance value of 20 ppb for acetochlor in drinking water. A person drinking water at or below the guidance value would have little or no risk for health effects.

Potential Exposure to Acetochlor

You may come in contact with small amounts of acetochlor by eating food with acetochlor residues or drinking contaminated water. The EPA regulates how much acetochlor residue can be in food products. The amount of acetochlor in food and drinking water is not likely a health risk for Minnesotans.

Acetochlor may be a health risk for those who regularly handle or apply the herbicide. Acetochlor can enter your body through skin contact or breathing in the herbicide during use.

Potential Health Effects of Acetochlor

Shorter-term animal studies indicate that exposure to acetochlor can cause effects to the developing offspring, such as decreased body weight and decreased spleen and brain weight, at high doses. Longer-term studies at high doses indicate that acetochlor can cause changes in the kidneys, liver, and male reproductive organs.

Using Acetochlor Safely

Acetochlor is not registered for residential use, and it is not a Restricted Use Pesticide (RUP). You need a special certification to use the herbicide if you use it in combination with a RUP pesticide.¹ People who use acetochlor should always follow product label directions for use and storage.

Acetochlor in the Environment

Acetochlor enters the environment when it is applied as an herbicide. Acetochlor dissolves easily in water, which makes it easier for the herbicide to travel through surface water and into groundwater.⁴

Health Risk Assessment Unit

The MDH Health Risk Assessment Unit evaluates the health risks from contaminants in groundwater. MDH works in collaboration with the Minnesota Pollution Control Agency and MDA to understand the occurrence and environmental effects of contaminants in water.

References

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September 2016

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