

Trimethoprim Screening Profile

Trimethoprim is a contaminant that has been detected in Minnesota waters. The information in this profile was collected for the screening process of the Minnesota Department of Health's Contaminants of Emerging Concern (CEC) program in September 2011. The chemicals nominated to the CEC program are screened and ranked based on their toxicity and presence in Minnesota waters. Based on these rankings, some chemicals are selected for a full review. CEC program staff have not selected trimethoprim for a full review.

Trimethoprim Uses

Trimethoprim is an antibiotic used to treat bacterial infections, most commonly skin and urinary tract infections. Trimethoprim is often partnered with other antibiotics to increase its effectiveness in killing bacteria. The most commonly prescribed trimethoprim combination antibiotic is known by the brand name Bactrim®. Trimethoprim is approved for both human and animal use.

Trimethoprim in the Environment

Trimethoprim enters the environment when it is excreted from people into wastewater and when unused medication is disposed of in the toilet, sink, or landfills. It can also be released through agricultural runoff.

Trimethoprim is expected to be persistent in the environment. One way to reduce the amount of trimethoprim in the environment is to dispose of unused medication properly. Follow the recommendations from the Minnesota Pollution Control Agency (MPCA) for disposing of unwanted medications.¹

Trimethoprim has been found in Minnesota waters at maximum concentrations of:

- 5.6 parts per billion (ppb) in wastewater,²
- 0.64 ppb in surface water,³
- 0.0064 ppb in groundwater.⁴

It is not likely that trimethoprim will build up in tissues of fish or other wildlife.⁵

Exposure to Trimethoprim

Exposure to trimethoprim may occur through drinking contaminated water and taking prescription drugs with trimethoprim as an ingredient. Trimethoprim is not considered safe for pregnant or nursing women.⁶

Potential Health Effects

Although much is known about therapeutic doses of trimethoprim, there is little information available on the health effects from long-term exposure to low levels of trimethoprim in the environment.

MDH developed a pharmaceutical water screening value of 4 ppb in drinking water using a rapid assessment methodology.⁷ Concentrations at or below this level are unlikely to pose a health risk.

Based on the screening assessment, a full review of trimethoprim may be possible; however, it is ranked lower than other nominated CEC chemicals at this time.

References

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Contaminants of Emerging Concern Program

Chemical Review Process

The Contaminants of Emerging Concern (CEC) program investigates the potential health concerns of contaminants of emerging concern in drinking water. This investigation includes a rapid assessment ('screening') to prioritize nominated chemicals for in-depth research and evaluation that result in drinking water guidance and information about exposure.

Chemical Nomination and Eligibility

Minnesota risk managers, stakeholders, and the public are encouraged to nominate contaminants for review. After chemicals are nominated, MDH program staff determine eligibility by examining the likelihood that the chemical will enter Minnesota waters and whether adequate guidance already exists.

Screening and Risk Based Selection

Program staff conduct a screening of where and how a contaminant is used in the state, its potential to enter the water supply, and its potential to harm humans. The results from the screening are used to prioritize nominated chemicals.

Chemicals having higher exposure and harm potential are selected for in-depth review and development of guidance (a contaminant water concentration that is not harmful to people). Chemicals that rank lower remain candidates for future in-depth review. For some contaminants, however, the information is too limited. For chemicals that are not selected for in-depth review, the results of the screening assessment are summarized in a Screening Profile. The screening and prioritization process is repeated as additional chemicals are nominated and screened.

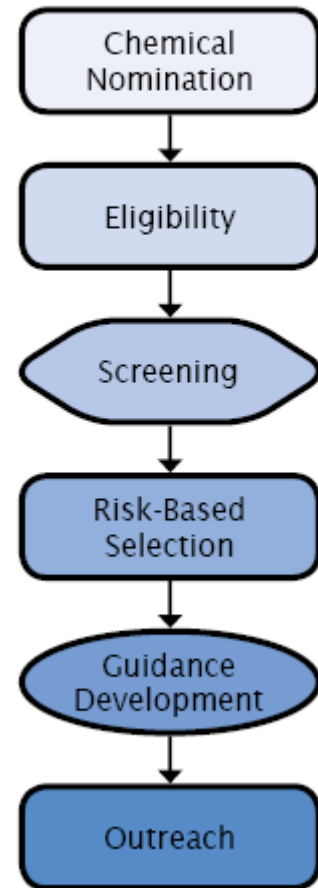
Guidance Development

When a chemical is selected for a full review, program staff carefully review exposure and toxicological information to understand how humans may be exposed and what adverse health effects occur from exposure. Staff combine the results of in-depth analyses of toxicity and exposure to calculate a guidance, a level of contaminant in water that causes little to no harm to someone drinking the water.

Outreach

CEC program staff work to communicate the results of the chemical review process. This includes making key findings publicly available on web pages and at a variety of meetings and events. An email subscription service (GovDelivery) is also used to alert the interested public (subscribers) of chemical review activities and guidance values.

Chemical Review Process



Subscribe to the CEC Program GovDelivery service to receive notification when reviews are initiated for water contaminants and other announcements by visiting: <http://www.health.state.mn.us/cec>