

Iopamidol Screening Profile

Iopamidol is a contaminant that has been detected in surface water in Minnesota. 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 February 2017. 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. Iopamidol has not yet been selected for a full review.

Iopamidol Uses

Iopamidol is an organic iodine compound that can be injected before a CT scan or other x-ray examinations. Injecting iopamidol makes it easier to see blood vessels, organs, and other non-bony tissues during CT scans or x-ray examinations. As such, using iopamidol can help find problems in the brain, heart, head, blood vessels, and other parts of the body.¹

Iopamidol in the Environment

Minnesota Pollution Control Agency (MPCA) detected iopamidol in 78 percent of the streams and rivers they sampled in 2014.² The highest concentration detected was 1,650 parts per trillion (ppt).² While iopamidol itself is not toxic, it can form toxic disinfection by-products when water containing iopamidol is chlorinated.²

Iopamidol is not expected to build up in tissues of fish or other wildlife.

Exposure to Iopamidol

People are exposed to iopamidol through being injected with a dose of iopamidol before an x-ray examination or CT scan. It is possible for skin to be exposed to the compound if the person administering a dose of iopamidol does not wear gloves or protective clothing.³

Potential Health Effects

Iopamidol is intended for single or short-term exposure in humans and has not been studied for long-term effects. In the event someone ingests high levels of iopamidol, the compound may cause stomach problems, such as nausea, vomiting, and diarrhea. Iopamidol is unlikely to affect other parts of the body because the body does not absorb the drug well and gets rid of it quickly.

Based on the screening assessment, a full review of iopamidol may not be possible at this time.

References

1. Mayo Clinic. [Iopamidol \(Injection Route\)](http://www.mayoclinic.org/drugs-supplements/iopamidol-injection-route/description/drg-20150965) (<http://www.mayoclinic.org/drugs-supplements/iopamidol-injection-route/description/drg-20150965>). Accessed January 2017.
2. MPCA. 2017. [Pharmaceuticals and Chemicals of Concern in Rivers: Occurrence and Biological Effects](https://www.pca.state.mn.us/sites/default/files/tdr-g1-20.pdf) (<https://www.pca.state.mn.us/sites/default/files/tdr-g1-20.pdf>).
3. Bracco Diagnostic Inc. 2011. [Isovue \(Injectable\) Material Safety Data Sheet](https://s3-us-west-2.amazonaws.com/drugbank/msds/DB08947.pdf?1401210905) (<https://s3-us-west-2.amazonaws.com/drugbank/msds/DB08947.pdf?1401210905>).

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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.

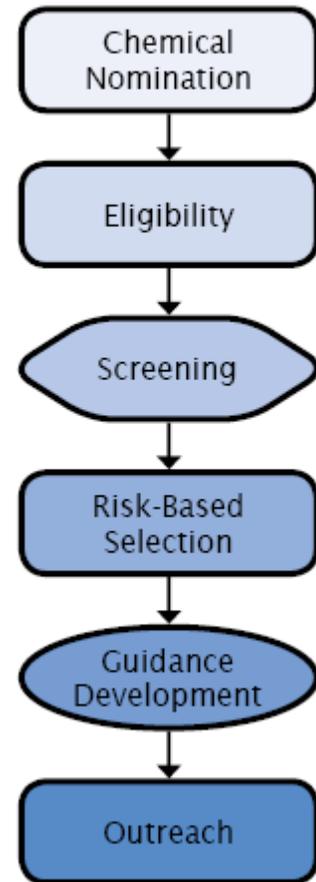
Guidance Development

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>