



# Contaminants of Emerging Concern Program

Every year, studies conducted in Minnesota and across the country find contaminants in our lakes, rivers, and even drinking water that we did not expect to find. These are often chemicals about which we know little. They may or may not be “new” contaminants, but their presence in our water may be new or unexpected.

## What are these contaminants and how do they get into water?

Most of these contaminants are from products that either intentionally or accidentally end up in water through storm water runoff, because of how we use them, or when they are disposed through septic systems and city sewers. These contaminants can include pesticides, pharmaceuticals, personal care products, flame retardants, and plasticizers.

## Why are we finding them now?

These contaminants are being found now because:

- there are better methods for finding substances at lower levels;
- additional substances are being looked for;
- new substances are being used; and
- old substances are being used in new ways.

## What is MDH doing to study these contaminants and protect public health?

The Minnesota Department of Health (MDH) Drinking Water Contaminants of Emerging Concern (CEC) program investigates and communicates the exposure potential and health risk of contaminants of emerging concern in drinking water. The program supports the Clean Water Fund charge to protect drinking water sources and the MDH mission to protect, maintain, and improve the health of all Minnesotans.

State agencies, clean water organizations, and the public can nominate contaminants for evaluation by

the CEC program. To date, 57 substances have been nominated, 34 by state agencies.

The MDH CEC program develops human health-based drinking water guidance values (how much of a substance is safe to drink). These guidance values are developed using available toxicity and exposure information. MDH scientists calculate guidance values that will protect people who drink from a water source for different time periods, whether briefly, occasionally, or daily for a lifetime.

MDH places a high priority on understanding whether children are more exposed and/or vulnerable to the health effects of contaminants. The calculations MDH uses are designed to protect the most vulnerable groups as well as the most exposed.

## Why is the CEC Program important?

The work of the CEC program is integral and vital to MDH and other state agency Clean Water Fund programs because it provides critical information needed to determine if a contaminant represents a human health risk. This information is used to set research priorities, prioritize cleanup actions, develop prevention strategies, and for sister agencies to develop guidance for other living things.

MDH recently evaluated microcystin, a contaminant sometimes produced by algal blooms and a particular concern to communities using surface water for their drinking water source. Warmer/drier



summers are likely to increase algal blooms that can lead to the production of microcystin. In 2012, the CEC program developed a human health-based

standard for microcystin in drinking water that can be used to evaluate the levels in drinking water.

### **What work is carried out by the program and what are the outcomes of the program?**

The work of CEC program staff includes identifying contaminants of emerging concern, selecting contaminants for in-depth research ('screening'), and completing evaluations that result in drinking water guidance and information about exposure. The program began in 2010 with an initial screening of 27 contaminants and guidance developed for 10 contaminants during the first two years. MDH anticipates continuing to screen ten contaminants and provide guidance for up to five contaminants annually. To date, staff has completed screening of 36 contaminants and review of 16 contaminants.

Staffs evaluate new methods for assessing health risks from contaminant exposure, especially in cases where little is known about the contaminant. Recently, the program began to work more closely with the MDH Public Health Laboratory to better understand the analytical challenges posed by contaminants and ensure methods are available to test for contaminants in water.

MDH also develops research partnerships and works with technical contractors to carry out specialized research that supports the work of the program. MDH is working with experts to collect new data, access new methods in risk assessment, and evaluate new models and tools to improve risk assessment for emerging concerns. Five research projects have been initiated under the program.

Additionally, MDH initiated an outreach and education grant program in 2012 with plans to provide approximately \$100,000 per grant cycle. Through this grant program, the public may become more aware of contaminants, the health effects of contaminants, the source of contaminants, how personal actions are relate to exposure and release of contaminants, how people are exposed to contaminants, the combined effects of multiple exposures or multiple contaminants, and other concepts.

The first grant cycle resulted in innovative proposals that will begin in spring 2013. Proposed grant activities for this cycle include: a media campaign that includes newspaper inserts, billboards, and on-air public service announcements; development of culturally and linguistically appropriate materials for environmental education events; and increasing the amount of pharmaceuticals and hazardous materials collected and properly disposed of through promotion and support of take-back and collection programs.

The work of the program is facilitated by collaborative relationships with the public, various local, state, and federal government agencies, academic organizations, non-profit groups, industry groups, and drinking water and wastewater professional organizations. Several groups provide advice and support to MDH, including:

- Contaminant Screening Criteria and Prioritization Development Task Group,
- Communication, Education, and Outreach Task Group, and
- Advisory Forum.

Finally, staff communicate the results of this work. This includes summaries of key findings on Web pages and presentations to other state agencies and the public in a variety of meetings and events. MDH staff share new methods and the results of the program with federal, state, and academic partners across the country and collaborate with these partners on work that can improve everyone's understanding of emerging contaminants. Communication activities also include regular quarterly and annual reports, e-mail updates via an e-mail subscription service, and development of outreach materials.



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