

The Third Unregulated Contaminant Monitoring Rule (UCMR 3) Searching for Emerging Contaminants in Drinking Water

What is the Unregulated Contaminant Monitoring Rule?

The 1996 amendments to the Safe Drinking Water Act (SDWA) require that once every five years, the U.S. Environmental Protection Agency (EPA) issue a new list of no more than 30 unregulated contaminants to be monitored by public water systems (PWSs). The Unregulated Contaminant Monitoring Rule (UCMR) provides EPA and other interested parties with scientifically valid data on the occurrence of contaminants in drinking water. These data serve as a primary source of occurrence and exposure information that the agency uses to develop regulatory decisions.

The final rule "Revisions to the Unregulated Contaminant Monitoring Rule (UCMR 3) for Public Water Systems" was published in the *Federal Register* on May 2, 2012 (77 FR 26072). UCMR 3 monitoring will take place from 2013-2015, and includes monitoring for 28 chemicals and two viruses.

What contaminants are systems looking for as part of UCMR 3?

Under UCMR 3, public water systems or EPA will conduct sampling and analysis for Assessment Monitoring (List 1), Screening Survey (List 2), and Pre-Screen Testing (List 3) contaminants, as follows:

UCMR 3 Contaminant List			
Assessment Monitoring (List 1 Contaminants)			
1,2,3-trichloropropane	bromomethane (methyl bromide)	chloromethane (methyl chloride)	bromochloromethane (Halon 1011)
chlorodifluoromethane (HCFC-22)	1,3-butadiene	1,1-dichloroethane	1,4-dioxane
vanadium	molybdenum	cobalt	strontium
chromium ¹	chromium-6 ²	chlorate	perfluorooctanesulfonic acid (PFOS)
perfluorooctanoic acid (PFOA)	perfluorobutanesulfonic acid (PFBS)	perfluorohexanesulfonic acid (PFHxS)	perfluoroheptanoic acid (PFHpA)
perfluorononanoic acid (PFNA)			
Screening Survey (List 2 Contaminants)			
17-β-estradiol	estriol	estrone	4-androstene-3,17-dione
17-α-ethynylestradiol	equilin	testosterone	
Pre-screen Testing ³ (List 3 Contaminants)			
enteroviruses		noroviruses	

- Monitoring for total chromium, in conjunction with UCMR 3 Assessment Monitoring, is required under the authority provided in Section 1445 (a)(1)(A) of SDWA.
- Chromium-6 will be measured as soluble chromate (ion).
- Monitoring for microbial indicators, in conjunction with Pre-Screen Testing, will be conducted, including: total coliforms, *E. coli*, bacteriophage, *Enterococci* and aerobic spores. EPA will pay for all sampling and analysis costs for the small systems selected for this monitoring.

Which water systems will participate in UCMR 3?

The UCMR program divides contaminants into three types of monitoring. UCMR 3 includes monitoring under each of the three lists:

- ❖ **Assessment Monitoring (List 1):** All PWSs serving more than 10,000 people (i.e., large systems) and 800 representative PWSs serving 10,000 or fewer people (i.e., small systems) will monitor for 21 chemicals during a 12-month period from 2013-2015.
- ❖ **Screening Survey (List 2):** All PWSs serving more than 100,000 people, a representative sample of 320 large PWSs serving 10,001 to 100,000 people, and a representative sample of 480 small PWSs serving 10,000 or fewer people will monitor for seven chemicals during a 12-month period from 2013-2015.

- ❖ **Pre-Screen Testing (List 3):** A representative selection of 800 undisinfected ground water PWSs serving 1,000 or fewer people will participate in monitoring for two viruses (i.e., enterovirus and norovirus) and related pathogen indicators (i.e., total coliforms, *E. coli*, bacteriophage, *Enterococci*, and aerobic spores) during a 12-month period from 2013-2015. The virus monitoring will take place in sensitive hydrogeological areas (e.g., karst or fractured bedrock).

Approximately, 6,000 PWSs are participating in UCMR 3. All laboratories conducting analyses for UCMR 3 List 1 and List 2 contaminants must receive EPA approval to perform those analyses (see “UCMR 3 Laboratory Approval Requirements and Information Document” for details of the EPA laboratory approval program). Pre-Screen Testing (List 3) analyses for viruses and indicators are organized and paid for by EPA through direct contracts with laboratories.

Where will samples be collected?

UCMR 3 samples are to be collected at entry points to the distribution system for all contaminants. Assessment Monitoring systems must also sample for total chromium, chromium-6, cobalt, molybdenum, strontium, vanadium, and chlorate in the distribution system.

What does UCMR 3 participation involve? What does it cost?

Participating systems collect drinking water samples and have them tested for UCMR contaminants. Large PWSs (systems serving more than 10,000 people) pay for their own testing costs (\$50-\$470 per sample, per testing method, on average). EPA pays for the testing costs of small PWSs (systems serving 10,000 or fewer people) and manages the small system monitoring.

How did EPA select the UCMR 3 contaminants?

EPA used a stepwise prioritization process to identify potential UCMR 3 contaminants. An agency and state working group first reviewed the third Contaminant Candidate List (CCL 3), as well as the contaminants considered in the development of CCL 3. The final CCL 3 is comprised of contaminants that were selected through a data-driven process that considered adverse health effects (potency and severity) and occurrence (prevalence and magnitude). EPA used CCL 3, along with additional sources of information about other emerging contaminants of potential concern, to establish an initial list of potential UCMR 3 contaminants. This list was further pared down by eliminating contaminants with methods that would not be ready for UCMR 3 monitoring and contaminants included in UCMR 1 or UCMR 2 monitoring. EPA published this proposed list of 30 contaminants in the Federal Register on March 3, 2011. After receiving and considering public comments on the proposed list, EPA added chromium-6 and total chromium to UCMR 3, and removed *sec*-butylbenzene and *n*-propylbenzene, both non-carcinogenic VOCs.

What does this information mean to me?

Contaminant monitoring is part of a larger process that EPA, states, tribes, water systems, and other partners use to protect drinking water. Health information is necessary to know whether these contaminants pose a health risk, but it is often incomplete for unregulated contaminants. Some contaminants maybe harmful at low levels; others may be harmful only at much higher levels. UCMR examines what is in the drinking water, but additional health information is needed to know whether these contaminants pose a health risk.

What are the environmental and public health benefits?

UCMR 3 benefits the environment and public health as follows: EPA and other interested parties will have scientifically valid data on the occurrence of targeted contaminants in drinking water; EPA can assess the number of people potentially being exposed; and EPA can provide an estimate of the levels of that exposure. This data set is one of the primary sources of occurrence and exposure information the agency uses to develop regulatory decisions for contaminants of concern.

Where can consumers find UCMR results?

If a PWS monitoring for UCMR 3 finds contaminants in its drinking water, it provides the information to its customers in an annual water quality report (called a Consumer Confidence Report). This includes both regulated and unregulated contaminants. Most systems mail these reports directly to customers, and many reports are available from EPA's website. EPA also makes the results available on-line via its National Drinking Water Contaminant Occurrence Database, <http://water.epa.gov/scitech/datait/databases/drink/ncod/databases-index.cfm>. These results will be posted on an ongoing basis after they have been reviewed for quality.

How can I learn more?

For general information on UCMR 3, go to: <http://water.epa.gov/lawsregs/rulesregs/sdwa/ucmr/ucmr3/> or contact the Safe Drinking Water Hotline at 800-426-4791, or at: <http://water.epa.gov/drink/contact.cfm>.