

WCIT NEWSLETTER

WATER CONTAMINANT INFORMATION TOOL, Summer 2023

New Type of Contaminant Profile

Each contaminant in WCIT has its own profile; as you recall, these are *Lab Method* and *Comprehensive* profiles. With the recent system upgrades, EPA added a new type of profile called *Partial*. All profile types are designed to highlight relevant information that utilities, labs, and other stakeholders can use to help expedite and support their emergency preparedness and response efforts. The key features of each of the contaminant profile types are:

- **Partial profiles** contain information on some, but not all, of the fourteen categories provided in a *Comprehensive* profile. At a minimum, *Partial* profiles have information in the first six categories: General Information, Contaminant Summary, Other Names/Forms, Physical Properties (or Pathogen Properties), Availability, and Fate and Transport. By including Partial profiles in the database, it allows WCIT to provide more contaminant information to users in the absence of a comprehensive profile. Currently, there are Partial profiles for approximately four radiochemicals.
- **Lab Method profiles** provide information on the analytical methods available to detect contaminants in water matrices. This information can be used to quickly identify appropriate analytical methods and view important method details, such as sample handling, quality control requirements, method rapidity, and more.
- **Comprehensive profiles** contain a wide range of information on a contaminant, organized into the following fourteen categories:
    - General Information
    - Contaminant Summary
    - Other Names/Forms
    - Physical Properties
    - Availability
    - Fate and Transport
    - Medical Information
    - Toxicity Information
    - Laboratory Methods and Field Tests
    - Drinking Water Treatment
    - Water Quality Indicators
    - Environmental Indicators
    - Wastewater Treatment
    - Infrastructure Decontamination

There is some variation from contaminant to contaminant. For example, pathogen profiles have a “Pathogen Properties” section instead of Physical Properties and an “Infectivity Information” section instead of Toxicity Information.

Most profiles in the database are *Lab Method* profiles. As funding permits, EPA will continue adding new and upgrading existing profiles (e.g., by converting *Lab Method* to *Partial* or *Comprehensive* profiles). If you have suggestions on which contaminants EPA should add or expand, please send your input to WCIT@epa.gov.

Inside the Database

User Selection Report

Need to distribute information on the contaminant you are dealing with to your response team in the field or just prefer a printer-friendly format? WCIT users have the capability to print contaminant information as a *Comprehensive Profile Report* or *Information Officer Report*. A new feature in the system now provides the capability to customize a report to ensure the most relevant information for the intended use is included. This feature is called the ***User Selection Report***.

When accessing a Comprehensive or Partial profile, users can customize their display of information by selecting only topics of interest in the contaminant profile. This can range from General Information, such as the contaminant's threat type and description, to Medical Information, such as first aid strategies, treatment descriptions, and clinical signs. As you select each of the topics, the page will grow and continue to populate with the information on the contaminant.

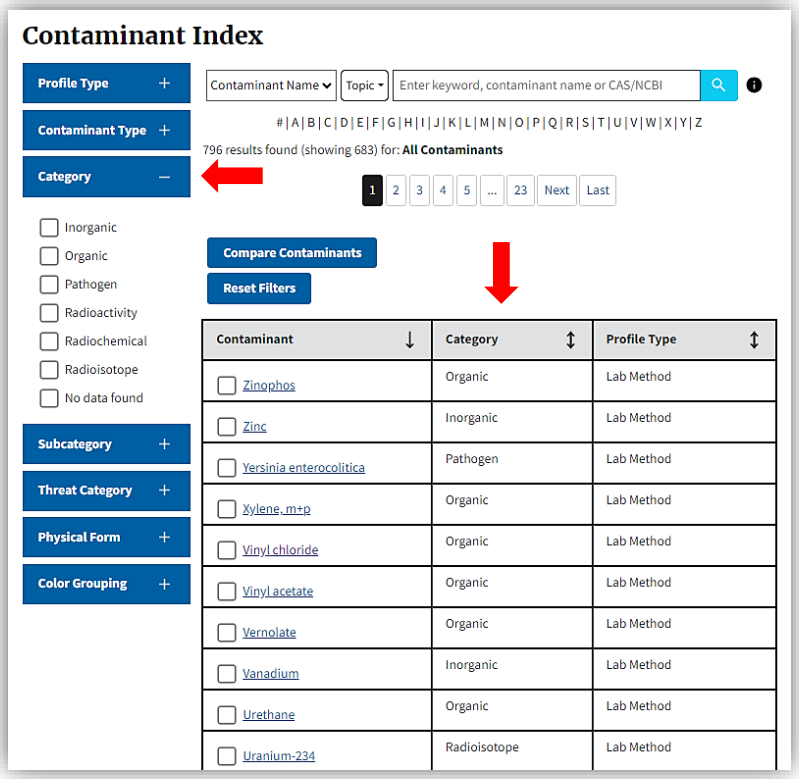
After making your selection of topics, and you are ready to print, go to the navigation panel under the name of the profile and select the *User Selection Report*. A window displaying the print preview of the report will appear. Click 'Print Report' to print. Now with your customized report, you and your team are ready to collaborate and focus on the information of interest instead of getting overwhelmed by a *Comprehensive Profile Report*.

This new feature has been designed with you, the user, in mind, to assist in finding the answers you need quickly.

Contaminant Category Update

One important field in WCIT is the "Contaminant Category." This information is valuable in understanding the nature of the contaminant and its classification. The contaminants are classified as inorganic, organic, pathogen, radioactivity, radiochemical, and radioisotope. Furthermore, the subcategory field provides another level of classification within the categories.

Previously when users viewed a contaminant with a Lab Method profile type, the *Contaminant Category* classification was unavailable. Recent system upgrades now make *Contaminant Category* information available for the *Lab Method* profile! This allows for a more comprehensive and nuanced understanding of contaminants and their properties, facilitating effective analysis and the search of contaminants by this data field.



Interested in live WCIT training?
Register for upcoming webinars on the Water Resilience Training webpage.

WCIT Supports Laboratory Efforts to Meet State Executive Order

Christopher Retarides
Group Manager
Chemical Terrorism Response, Radiochemistry, Biomonitoring and Drug Testing Group, Virginia DCLS

Christopher Retarides is the Group Manager of the Chemical Terrorism Response, Radiochemistry, Biomonitoring, and Drug Testing Group at the Virginia Department of General Services Division of Consolidated Laboratory Services (DCLS). This all-hazards emergency response laboratory provides 24/7 testing services to hundreds of local, state, and federal agencies. DCLS performs over 9 million tests annually to ensure Virginia's citizens' safety and health. Dr. Retarides has over 28 years of technical expertise in chemical analysis. According to Dr. Retarides, WCIT has been a complementary research tool in remaining current with emerging environmental contaminants and analytical issues.

Dr. Retarides recently used WCIT to research information on fentanyl, a public health threat seldom looked at as an issue concerning water utilities. The search was triggered by Virginia Governor Glenn Youngkin's executive order issued on May 9, 2023, directing state agencies to enact a 10-part program to reduce fentanyl overdoses in the Commonwealth. One of the directives is to establish a wastewater surveillance program for fentanyl to determine areas that may be targeted for education, increased naloxone distribution, and other strategies to reduce the prevalence of fentanyl in those communities. Wastewater analysis proved to be a valuable tool in tracking the COVID-19 pandemic and can be used similarly to identify areas of elevated fentanyl use. Dr. Retarides' search for fentanyl in WCIT returned a tremendous amount of information, including fate and transport, physical properties, stability, degradation pathways, and analytical methods, which he stated, "will assist DCLS in responding to the executive order in supporting efforts to ultimately reduce fentanyl overdoses in the Commonwealth."

WCIT Challenge

Read the scenario below and use WCIT to answer the questions. (Log in at https://cdx.epa.gov/)

You are a laboratory manager at a utility and are working with the plant manager to establish a wastewater surveillance program for opioids. Starting with fentanyl, log into WCIT and use the Comprehensive Profile Report to gather the following information for your surveillance program.

Send your answers to WCIT@epa.gov!

Congratulations to those readers who successfully completed the Winter 2023 challenge.

1. What is the fate of fentanyl in municipal wastewater treatment plants? What does this indicate about wastewater treatment performance?
2. What is the most effective wastewater treatment for the removal of fentanyl?
3. What sample preparation and analytical methods are available to test wastewater samples for fentanyl?