Advancing Environmental Solutions

Kansas City, MO, Spring 2025

ITRC PFAS Team Update

April 2025

ITRC PFAS Team Leaders:

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What is the ITRC?

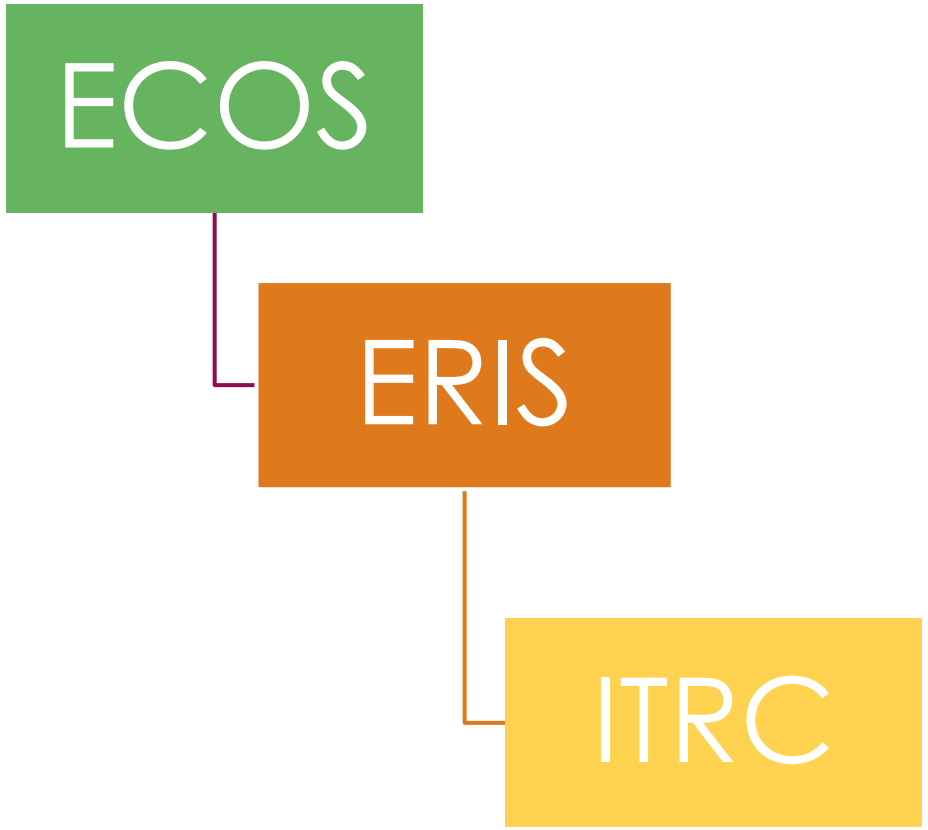
INTERSTATE TECHNOLOGY REGULATORY COUNCIL

ITRC

Who we are

- ITRC is a program of the Environmental Research Institute of the States (ERIS)
- A national coalition focused on developing tools and strategies – documents, training materials - to reduce interstate barriers to the deployment of innovative environmental technologies.
- Membership from state, federal, tribal, and local agencies, private sector, academics and public stakeholders

Organization



Environmental Council of the States (ECOS)

- The national nonprofit, nonpartisan 501(c)(6) association of state and territorial environmental agency leaders

https://www.ecos.org/

Environmental Research Institute of the States (ERIS)

- 501(c)(3) education and research nonprofit corporation affiliated with ECOS

https://www.eristates.org/

Interstate Technology & Regulatory Council (ITRC)

- Program of ERIS

https://itrcweb.org/

ITRC PFAS Team

- Producing concise technical resources for project managers – regulators, consultants, responsible parties, and stakeholders
- Why: State and federal environmental regulators and others need easily accessible information to aid them in evaluating risks and selecting appropriate response actions at PFAS release sites

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Technical Resources

- ITRC PFAS Home Page:
  https://pfas-1.itrcweb.org/
- Guidance Document
  - First published April 2020
  - Updated December 2021
  - Full Update September 2023
  - Small edits & reference additions November 2023 and May 2024
- Fact Sheets
- Data Tables
- Training Resources

13 PFAS Fact Sheets

Naming Conventions

Regulations

History and Use

Fate and Transport and Physical and Chemical Properties

Sampling Precautions and Laboratory Analytical Methods

Site Characterization and Media-Specific Occurrence

Treatment Technologies and Methods

Aqueous Film-Forming Foam

Human and Ecological Health Effects and Risk Assessment

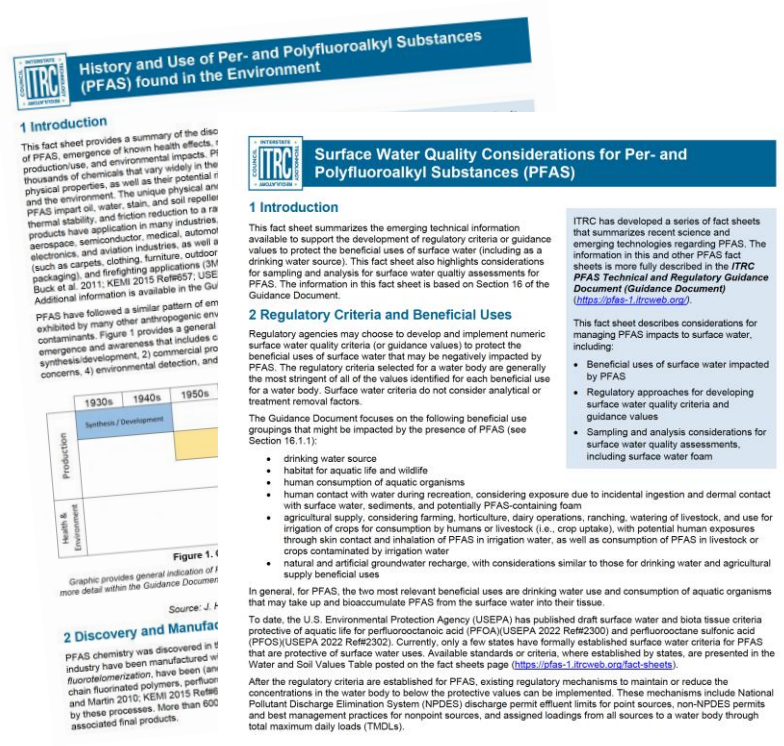
Risk Communication

Stakeholder Perspectives

Surface Water Quality

Biosolids

All updated September 2023



History and Use of Per- and Polyfluoroalkyl Substances (PFAS) found in the Environment

1 Introduction

Surface Water Quality Considerations for Per- and Polyfluoroalkyl Substances (PFAS)

1 Introduction

2 Regulatory Criteria and Beneficial Uses

ITRC has developed a series of fact sheets that summarizes recent science and emerging technologies regarding PFAS. The information in this and other PFAS fact sheets is more fully described in the ***ITRC PFAS Technical and Regulatory Guidance Document (Guidance Document)*** (https://pfas-1.itrcweb.org/).

This fact sheet describes considerations for managing PFAS impacts to surface water, including:

- Beneficial uses of surface water impacted by PFAS
- Regulatory approaches for developing surface water quality criteria and guidance values
- Sampling and analysis considerations for surface water quality assessments, including surface water foam

2 Discovery and Manufac

https://pfas-1.itrcweb.org/fact-sheets/

Data Tables

- PFAS Environmental Media Values Table
- Figure 2-5 PFAS Family Tree
- Table 2-5 USEPA Analytes List – PFAS Classifications
- Table 3-1 AFFF Characteristics
- Table 3-5 AFFF Transition to F3 Case Studies
- Table 4-1 Physical and Chemical Properties
- Table 5-1 Aquatic Organisms BCF-BAF
- Table 5-2 Plants BCF-BAF
- PFAS Regulatory Programs Summary

Tables 11-2 to 11-5 Analytical Methods

- Table 11-6 PFAS Data Usability
- Table 12-1 Treatment Technologies
- Figure 12-7 Integrated Water Treatment Flow Chart
- Risk Communication Social Factors Vision Board
- Table 15-1 Water Treatment Case Studies
- Tables 17-1 A-C for Air Occurrence
- Tables 17-2 A-C for Soil, Sediments, and Biosolids Occurrence
- Table 17-8 Toxicological Effects

Training Resources

- Training Resources page
  - https://pfas-1.itrcweb.org/pfas-training/
- Video modules
- Archived training on Clu In
  - https://clu-in.org/live/archive/
- Training statistics
  - Workshop attendance 2018-2020: 3050
  - Virtual Roundtables attendance 2020-2021: 2250
  - Online training attendance 2024: 3500

PFAS Update Team 2024 - 2025

- PFAS Priority Topics
- Develop new "Guidance on Applying Sorption-Based Technologies for Separation and Concentration of PFAS"
- New Case Studies
- Update Data Tables
- Presenting the Beyond the Basics Training online in 2025

Priority Topics

- Biosolids and Residuals Management
  - Land application
  - Uptake by plants/animals
- History, Use, Naming Conventions, Site Risk-Assessment
  - Semiconductor industry uses
  - Novel PFAS in use
  - Less-publicized sources
  - Less-studied PFAS
- Firefighting Foams
  - Characteristics of AFFF & FFF
  - Transition planning
- PFAS and Microplastics
- Human and Ecological Health Effects
  - Health effects of AFFF in drinking water
  - Health effects of ultra-short chain PFAS
  - Occupational exposures
  - Exposure from consumer products
  - Dermal uptake of PFAS
  - Risks to livestock
  - New information on PFAS as a class
- Treatment Technologies
  - Thermal treatment update
  - Supercritical water oxidation
  - Investigation-derived waste
  - Treatment of sediment
  - Biosolids treatment

Priority Topics

- Fate, Transport, Site Characterization and Surface Water
  - Marine environments
  - Particulate effects on surface water sampling
  - Vadose zone characterization and transport
  - Septic systems
  - Precursor transformation
  - GW partitioning, colloidal transport, GW-SW interactions
  - Updated information on source identification, differentiation, and forensics
  - Site characterization tools and techniques
- PFAS vapor intrusion fact sheet
- Sampling and Analysis
  - Leaching methods
  - Fish sampling
  - Ultra-short chain PFAS analysis
  - Consumer product testing
  - ISM for PFAS sampling
  - Concrete sampling and analysis
  - Field screening tools

Sorption-based Technologies Guidance

- Treatment Objectives
- Fixed-Bed Adsorbers
  - Technical Overview
  - Performance Evaluation
  - Fate of Spent Media and Treatment Residuals
- Foam Fractionation
  - Technical Overview
  - Performance Evaluation
  - Fate of PFAS-Containing Foams
- Resources for Decision-Making
- Barriers and Challenges

External Review Survey

- Access the survey with the QR Code. The survey is to identify external reviewers.
- External Review: April 24 to June 10
- If you are willing and available to review any portion of the specific topics in our External Review, please indicate your interest using the survey.
- We don't expect any of our reviewers to review all the draft new material.

ITRC PFAS Team - Request for External Reviewers

Questions

https://pfas-1.itrcweb.org/

ITRC PFAS Resources

ITRC PFAS: https://pfas-1.itrcweb.org/

Guidance Document

13 Fact Sheets

External Tables

PFAS Introductory Training

- Clu-In Archive: https://www.clu-in.org/conf/itrc/PFAS-Introductory/

Other video resources

- Available through links on: https://pfas-1.itrcweb.org
- Quick Explainer Videos
- Longer PFAS Training Modules
- Archived Roundtable Sessions

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