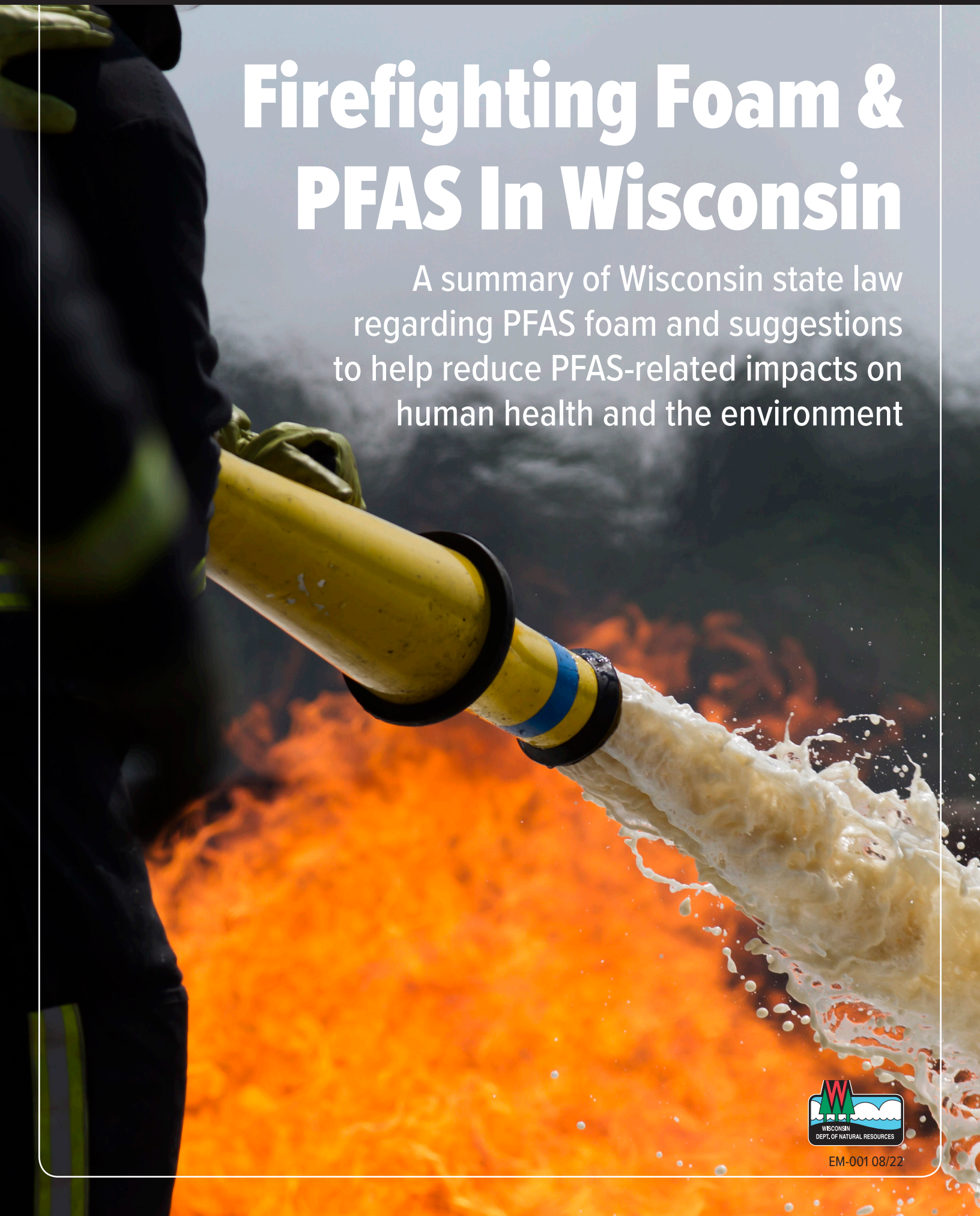
SAFEGUARDING WISCONSIN'S COMMUNITIES & NATURAL RESOURCES

Firefighting Foam & PFAS In Wisconsin

A summary of Wisconsin state law regarding PFAS foam and suggestions to help reduce PFAS-related impacts on human health and the environment



WISCONSIN DEPT. OF NATURAL RESOURCES

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Firefighting Foam & PFAS In Wisconsin

INTRODUCTION

Wisconsin state law prohibits the use of firefighting foams that contain intentionally added perfluoroalkyl and polyfluoroalkyl substances (PFAS foam) in all but two situations:

1. For emergency firefighting and suppression; and
2. For testing, when the testing facility employs appropriate foam containment, treatment and disposal measures.

Simultaneously, federal law may require the use of PFAS foam to extinguish certain types of Class B fires until the federal government approves the use of PFAS-free Class B foams for these types of fires. Firefighters should comply with federal law when it applies to the fire situation.

This document summarizes Wisconsin state law regarding PFAS foam. It also includes optional best-practice suggestions related to the selection, storage, testing, containment, treatment and disposal of PFAS foams.

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KEY POINTS

- The 2021-23 biennial budget included $1 million for a firefighting foam collection and disposal program.
- The immediate safety of firefighters and the public is the top priority. Use the appropriate foam for the fire in emergencies. Only use PFAS foams when necessary to extinguish flammable liquid fires.
- The use of PFAS foams is only allowed by state law:
  1. during emergencies; and
  2. when testing foam with appropriate containment, treatment and disposal measures in place.
- The use of PFAS foam for training purposes is prohibited in Wisconsin.
- Most Class B and A/B firefighting foams contain PFAS.
- Contain and collect expended PFAS foam to the extent practicable during or following emergency operations.
- Some environmental contractors specialize in spill and discharge prevention, containment, collection and disposal. Review their qualifications in advance and determine if their services would benefit your department before needing them during an emergency response.
- State law requires:
  a. That persons notify the Wisconsin Department of Natural Resources (DNR) on the use or discharge of PFAS foam through testing immediately or during emergencies as soon as practicable.
  b. That a person who discharges a hazardous substance to the environment report that discharge to the DNR immediately.
  c. To satisfy reporting requirements under par. (a), (b) or both above, the DNR recommends fire departments report using the Wisconsin Spill Emergency Hotline at 1-800-943-0003.
  d. Retaining Safety Data Sheets (SDS) for all Class A/B and Class B firefighting foams your department possesses.
- Plan, train and verify that appropriate equipment is available to mitigate PFAS foam discharges to the environment.

PFAS EXPLAINED

Perfluoroalkyl and polyfluoroalkyl substances (PFAS) are a large group of human-made chemicals that have been used in industry and consumer products worldwide since the 1950s. They persist in the environment for extended periods. They are mobile and accumulate in the human body. There is evidence that exposure to PFAS can lead to adverse health outcomes for humans. The **PFAS Frequently Asked Questions Fact Sheet** from the Agency for Toxic Substances and Disease Registry (ATSDR) provides more information about exposure and health effects of PFAS.

PFAS are ingredients in some types of Class B firefighting foams, including aqueous film-forming foam (AFFF). Fire departments and airports procure Class B foams in the form of a liquid concentrate that, when mixed with water in the correct proportions and with the correct equipment, produces a foam solution used for firefighting and fire suppression.

Most firefighting foams currently used to extinguish Class B fires contain intentionally added PFAS. However, foam concentrate containers and SDSs often do not clearly identify the type and volume of PFAS ingredients. **Contact foam manufacturers** to determine if the products you have purchased or plan to purchase contain PFAS and request a copy of the SDS for the added PFAS compounds.

An April 2020 fact sheet from the Interstate Technology Regulatory Council (ITRC) titled ***Aqueous Film-Forming Foam (AFFF)*** identifies the following types of Class B foams as ones that contain PFAS:

- Aqueous film-forming foam (AFFF)
- Alcohol-resistant aqueous film-forming foam (AR-AFFF)
- Film-forming fluoroprotein foam (FFFP)
- Alcohol-resistant film-forming fluoroprotein foam (AR-FFFP)
- Fluoroprotein foam (FP)
- Alcohol-resistant fluoroprotein foam (FPAR)
- Most Class B and A/B firefighting foams currently in use contain PFAS, but PFAS-free Class B foams are available

FIREFIGHTING FOAM COLLECTION AND DISPOSAL PROGRAM

The 2021-23 state of Wisconsin biennial budget included $1 million for a firefighting foam collection and disposal program to be administered by the DNR. The DNR will provide additional information regarding this program on the **PFAS-Containing Firefighting Foam webpage**.

STATE LEGAL REQUIREMENTS

PFAS FOAM USE PROHIBITIONS IN WISCONSIN

1. As of September 2020, state law prohibits the use of PFAS foam in Wisconsin, except in the following two situations:
   a. When used as part of emergency firefighting or fire prevention operation; or
   b. When used for testing purposes, and the testing facility has implemented appropriate containment, treatment and disposal or storage measures to prevent discharges of the foam to the environment, and does not flush, drain or otherwise discharge the foam into a storm or sanitary sewer.
2. The use of PFAS foam for training, or any other purpose not identified above, is prohibited in Wisconsin.

See s. 299.48, Wis. Stats., and ch. NR 159, Wis. Adm. Code, for all prohibitions and requirements regarding the use, testing, treatment and disposal of PFAS foams in Wisconsin.

AFTER PFAS FOAM IS DISCHARGED

1. **Fire departments must report all use or discharges of PFAS foam to the environment to the DNR.**

The DNR recommends calling the Spill Emergency Hotline at
1-800-943-0003
to report PFAS foam use or discharges.

2. Fire departments that use PFAS foam as part of emergency firefighting or fire prevention operation must notify the DNR of the foam use immediately or as soon as practicable without hindering firefighting or fire prevention operations.
3. Fire departments that possess PFAS foam for use in emergencies must obtain and retain safety data sheets (SDS) for their PFAS firefighting foam and make the SDS available to the DNR after providing notice of PFAS foam use.
4. Fire departments that use PFAS foam to test equipment must notify the DNR immediately if the foam is discharged to the environment.

BEST MANAGEMENT PRACTICES

Establishing best practices for the storage, use, collection and disposal of PFAS foam can help fire departments ensure that state law requirements are met. Best practice policies can also help reduce PFAS-related impacts on human health and the environment and may limit cleanup liability. The DNR recommends the following best practices for consideration.

BEST PRACTICE – Class B Foam Selection

Selecting the appropriate types of firefighting foam to purchase and use is a local decision. Individual fire departments may determine which foam to use in emergencies based on local needs. Most Class B foams currently in use contain PFAS. However, many manufactures also produce PFAS-free Class B foams.

When an emergency exists, the safety of firefighters and the public, along with property protection, are the top priorities, and the most effective firefighting tools available should be used.

BEST PRACTICE – Evaluate PFAS-Free Foams

Evaluate available PFAS-free foams to determine if they can meet your department's needs. Most firefighting foam manufacturers, vendors and interested organizations currently "certify" and market "fluorine-free" firefighting foams (which they imply means PFAS-free). Foams marketed as "fluorine-free" should not contain "intentionally added PFAS," and therefore, may be utilized in training exercises. However, the DNR has not verified any manufacturer's PFAS-free claims.

Nor can the DNR speak to the effectiveness of these foams, or if they will work with existing fire department equipment such as inductors, proportioners and around-the-pump foam systems. Note that "PFOA-free," PFOS-free" or "C8-free" do not necessarily mean "fluorine-free" (or PFAS-free). PFOA and PFOS are just two specific C8 PFAS compounds while there are several thousand other PFAS compounds.

Class A firefighting foams generally contain significantly lower concentrations of PFAS than traditional Class B foams and are typically marketed as "fluorine-free." Class A foams **approved by the United States Department of Agriculture (USDA) Forest Service** are **prohibited from containing intentionally-added PFAS**.

The Wisconsin State Laboratory of Hygiene can analyze a sample of the foam you currently have or intend to purchase for a fee. Call 800-442-4618 to inquire about their services.

BEST PRACTICE – Storing PFAS Foam

Proper storage of PFAS foams used for firefighting purposes lessens the likelihood of accidental discharges, spills or concentrate contamination and prolongs the product's shelf life.

- Store foam following manufacturer instructions and SDSs, and in a manner that prevents the discharge of foam to the environment.
- Do not allow full containers of PFAS-containing foam to freeze.

- Store PFAS foam concentrates in original shipping containers, in sturdy 55-gallon drums, plastic barrels or double-walled above-ground storage tanks.
- Clearly label storage containers to identify the type of foam concentrate in them.
- Store containers in a manner that allows easy detection of signs of leakage.
- Keep material for absorbing discharges of foam on-site.
- Block drains in a storage area from any connection to a sanitary or storm sewer.
- Store containers in a sheltered building on ground level with a solid surface such as concrete or asphalt.
- Use secondary containment methods to contain leaks and spills.
- Have two or more people available to move containers of PFAS foam concentrate.
- Have a spill safety plan in place.

BEST PRACTICE — Contain PFAS Foam When Testing

PFAS foam can be discharged to the environment when testing its effectiveness and testing a firefighting foam delivery system or equipment.

- Any person testing foam, including testing foam effectiveness and fire suppression systems, foam delivery systems and associated equipment or vehicles, must contain the foam in a manner that will prevent discharge of the foam to the environment. This includes:
  - Containment that meets industry and national association testing standards;
  - Testing and flushing of equipment, systems and facilities using a containment system capable of capturing, diverting and storing generated foam;
  - Measures to prevent foam that escapes containment from entering surface waters, groundwater, storm sewers or sanitary sewers.
- Use secondary containment structures and devices to keep foam under control and within testing boundaries.
- Consider the use of non-PFAS foam for testing purposes if testing with PFAS foam is not required.

BEST PRACTICE — PFAS Foam Application

- Ensure all staff is educated in safety and environmental concerns and trained in procedures designed to promote safety and environmental protection.
- Require personnel to wear PPE, including, but not limited to, work gloves.
- Avoid the use of PFAS-containing foams when they are not needed to extinguish a fire or prevent rekindle.

BEST PRACTICE — Contain PFAS Foam When Used In Emergencies

- Contact environmental contractors that specialize in hazardous substance spill containment, collection and disposal. Review their qualifications and determine if contractor or HAZMAT team services would benefit your department before, during or after emergency response actions involving PFAS foam.
- When using PFAS foam in emergency situations, to the extent possible, visually inspect the site or facility and install physical containment barriers such as berms, booms, dikes or trenches to prevent the discharge of PFAS foam and other hazardous substances to sewer systems, water bodies or other environmental resource.
- Contain and collect expended PFAS foam to the extent practicable during and following emergency firefighting operations to limit discharges to the environment.
- Obtain appropriate equipment to contain and collect PFAS-containing foam discharges, such as berms, booms, dikes or trenches, and conduct regular training on proper use.

BEST PRACTICE — Document PFAS Foam Use After The Fire Is Extinguished

Once the fire is extinguished, the DNR will work with the parties responsible for the fire incident to identify necessary follow-up actions. For additional information regarding spills, visit the DNR Spills webpage.

The DNR recommends that fire departments gather as much information as possible about the foam discharge event to help the DNR determine the extent of potential environmental contamination and to assist the responsible person or state with any needed discharge assessment and cleanup efforts. Helpful information to gather following a discharge of PFAS foam includes:

- The **active ingredients, brand and manufacturer**, including a copy of the SDS of the discharged foam.
- The approximate **volume of foam discharged**.
- Any **site features** that could allow rapid drainage of PFAS-containing foam into ditches, drains and stormwater inlets.
- Estimated **area of the PFAS foam discharge**.
- **Photos** that show the foam discharge.
- Accurate information on the **location** of the discharge.
- **Contact information** for the fire department and the property owner.

BEST PRACTICE – PFAS Foam Disposal

- In Wisconsin, available disposal options for PFAS waste may include municipal solid waste landfills and combustors and industrial landfills. **However, facilities may choose not to accept known PFAS wastes. Before bringing PFAS waste to any facility, the DNR recommends contacting the facility for approval.**
- Other disposal methods are available outside of Wisconsin, including deep well injection, hazardous waste landfills and incinerators.
- Fluorinated foam concentrates are typically solidified and disposed of at out-of-state hazardous waste landfills. Other types of PFAS waste are also often disposed at hazardous waste facilities. These wastes may be collected and consolidated by in-state contractors before out-of-state shipment.

BEST PRACTICE – PFAS Foam Decontamination

- When using the same foam delivery system for both PFAS-containing and PFAS-free foams, do the following after each use:
  - Rinse delivery system components (and turnout gear) to the extent practicable.
  - Perform these activities on-site.
- Be aware that, even after substantial flushing, subsequent applications of PFAS-free foams using that delivery system will still be contaminated with PFAS.
- Decontamination and replacement processes may vary depending upon the equipment.
  - Fire departments should request assistance from a qualified environmental contractor to identify an appropriate decontamination process.
  - The Air Force Institute of Technology and EPA Office of Research and Development are currently working on a standardized cleanup framework for firefighting systems.

Additional Information

For more information on PFAS in firefighting foams, visit the DNR website at dnr.wi.gov and search "PFAS foam."

Additional Best Management Practices

- Interstate Technology & Regulatory Council: PFAS Firefighting Foams
- Fire Product Search: Best Practice Guidance for Use of Firefighting Foams
- Fire Fighting Foam Coalition: Best Practice Guidance for Use of Class B Firefighting Foams
- State of New Hampshire: Joint Informational Bulletin Regarding PFAS/Class B Firefighting Foam
- Organisation for Economic Co-operation and Development: Webinar on Best Environmental Practices for Class B Firefighting Foams