

# MPART

## MICHIGAN PFAS ACTION RESPONSE TEAM

### Michigan Firefighting Foam and PFAS



#### INTRODUCTION

Perfluoroalkyl and/or 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 of time. They are mobile and accumulate in the human body. There is evidence that exposure to PFAS can lead to adverse health outcomes for humans.

PFAS are commonly found in aqueous film forming foams (AFFF) and in some wetting agents. PFAS surfactants are ingredients in some types of Class B AFFF firefighting foams. 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.

This document summarizes state laws regarding PFAS-containing AFFF and includes Key Points related to the selection, storage, testing, containment, treatment, and disposal of PFAS foams.

#### STATE OF MICHIGAN LEGAL REQUIREMENTS

##### You Must Report the Use of AFFF

[Public Act 132 of 2020](#) states that immediately after the end of a fire or other incident at which an organized fire department uses firefighting foam containing intentionally added PFAS, the fire chief **shall report** the incident to the [Michigan Pollution Emergency Alert System \(PEAS\)](#) at 800-292-4706. It is important to understand and report how much foam concentrate was used and the location where the foam was discharged.



If you do not know if the Class A or B AFFF used has PFAS in it, report it anyway. The Michigan Department of Environment, Great Lakes, and Energy (EGLE) can help you determine if the product used contains PFAS.

##### You Cannot Train With AFFF Containing PFAS

[Public Acts 133](#) and [143](#) prohibit the use of AFFF containing PFAS for training purposes.

## KEY POINTS TO REMEMBER ABOUT AFFF AND ITS USE

- Most Class B and A/B firefighting foams, and some wetting agents contain PFAS.
- Do not use Class B foam on Class A fires. Vehicle fires with no fuel involved in the fire are a Class A fire.
- Only use Class B foam on fires with a greater than 40 gallons of fuel load. Consider exposure protection and burning off the fuel versus applying a Class B foam and the substantial environmental cleanup that will be required.
- Understand the capability and limitations of your different foam concentrates (Class A foam, wetting agent, Class B fluorinated foam, Class B alcohol resistant-AR, Class B fluorinated protein foam, Class B fluorine free foam).
- When using Class B foam containing PFAS, attempt to contain it on an engineered surface (cement) where possible, and dam up or seal any drains to sewers or water ways. Do not allow the foam solution to get to the earth or other porous materials (soil, sand, etc.).
- After foam use is finished, flush your equipment at the scene of the incident, not at the station.
- If possible, do not drive response vehicles through foam release areas to prevent the track out of foam.
- PFAS released into the environment can get into rivers and lakes, groundwater, and into storm sewers.
- Protect yourself and the environment:
  - Use the right foam for the type of fire you are fighting. Only use PFAS-containing AFFF foams when necessary to extinguish flammable liquid fires.
  - Keep Safety Data Sheets (SDSs) for all Class A/B and Class B firefighting foams that you have at your station.
  - If you use Class B foam use, have a cleanup plan, and implement the BMPs below.

## FIREFIGHTING FOAM COLLECTION AND DISPOSAL PROGRAM

State Law (PA 132 of 2020) requires EGLE to administer a program for firefighting foam collection and disposal. As of June 2024, Michigan had collected over 69,400 gallons of AFFF. We continue to work with fire chiefs around Michigan to ensure AFFF is properly disposed. For more information on proper disposal, contact Steve Noble, EGLE Materials Management Division, at [NobleS4@Michigan.gov](mailto:NobleS4@Michigan.gov) or 517-449-6153.



## BEST MANAGEMENT PRACTICES FOR THE USE OF AFFF

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



### Best Practice – Select the Right AFFF

Determining which foam to purchase and use is up to individual fire departments based on the nature of the fires they are likely to fight and local needs. Most **Class B** AFFF foams currently in use contain PFAS. **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 USDA Forest Service](#) are [prohibited from containing intentionally-added PFAS](#).

Many manufacturers produce low fluorine-containing foams. If you decide to evaluate PFAS-free foams to determine if they can meet your department’s needs, you should be aware that 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.” However, neither LARA, EGLE or MPART has independently verified any manufacturer’s PFAS-free claims. Nor can LARA, EGLE or MPART 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,” “C8-free”, or “C6” does not necessarily mean “fluorine-free” or PFAS-free. PFOA and PFOS are just two specific PFAS compounds, while there are thousands of other PFAS compounds that could be in AFFF.

To learn more about PFAS-containing AFFF, see [PFAS Response - Firefighting Foam and PFAS \(michigan.gov\)](#). **If you want to make sure the “green” or “fluorine-free” foam you have is PFAS-free, commercial laboratories can analyze an AFFF sample for a fee.** Contact Michael Jury of MPART at 517-242-9578 or by email at [JuryM1@Michigan.gov](mailto:JuryM1@Michigan.gov) to discuss the appropriate testing methods or to inquire about commercial laboratory services.



## Best Practice – Use and Training with AFFF

Fire chiefs should ensure all firefighters are trained about proper safety and environmental protocols. This is required under Act 133. Viewing the training video, located on the Firefighting Foam and PFAS web page, [Firefighting Foam and PFAS \(michigan.gov\)](https://www.michigan.gov), will meet the requirements of the Act.

- All firefighters should wear personal protective gear, including, but not limited to, work gloves.
- Do NOT use PFAS-containing AFFF when it is not needed to extinguish a fire or to prevent rekindle.
- Wherever possible use the same truck and equipment to apply PFAS-containing AFFF.
- Fire departments that use PFAS-containing foam to calibrate equipment must notify EGLE immediately if foam is discharged to the environment.

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



## Best Practice – Contain PFAS Foam If Spilled And After Use

If PFAS-containing AFFF is spilled or used:

- Firefighters should rinse off their equipment on-site, including their PPE. Also, as soon as possible after a fire, firefighters should shower and put on clean clothes.
- To the extent possible, visually inspect the site or facility and install barriers such as berms, booms, dikes, or trenches to prevent the discharge of PFAS-containing AFFF and other hazardous substances to sewer systems, water bodies or other environmental resources.
- Contain and collect expended PFAS foam to the extent practicable during and following emergency firefighting operations to limit its discharge to the environment.
- Obtain appropriate equipment to contain and collect PFAS-containing AFFF discharges, using berms, booms, dikes, or trenches. Departments should conduct regular training on proper use of equipment.
- If possible, do not drive response vehicles through foam release areas to prevent the track-out of foam.

Contact environmental contractors or a HAZMAT Team that specializes in hazardous substance spill containment, collection, and disposal. Review their qualifications and determine if the contractor or HAZMAT team services would be beneficial to your department before, during or after emergency response actions involving PFAS-containing AFFF.

Fire departments that possess PFAS-containing AFFF should obtain and retain safety data sheets (SDS) for their AFFF and make the SDS available to EGLE after providing notice of PFAS-containing foam use.

**NOTE:** Foam concentrate containers and SDSs often do not clearly identify if the AFFF has PFAS. **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. If you need help interpreting a container label or SDS, please reach out to Michael Jury of MPART (517-242-9578 | [JuryM1@Michigan.gov](mailto:JuryM1@Michigan.gov)) or the [State Fire Marshal](#).



## Best Practice – Document PFAS-Containing AFFF Use After the Fire is Extinguished

Once the fire is extinguished, EGLE will work with the parties responsible for the fire incident to identify necessary follow-up actions. For additional information regarding spills, visit [Michigan.gov/EGLEReleaseReporting](https://Michigan.gov/EGLEReleaseReporting).

Fire departments should gather as much information as possible about the PFAS-containing AFFF to help EGLE determine the extent of potential environmental contamination, and to assist the responsible person or company with any needed assessment and cleanup efforts. Helpful information to gather following the use of PFAS-containing AFFF includes:

- The **brand, manufacturer, active ingredients, and year of manufacture**, including a copy of the SDS of the discharged foam. Take photos that show the front and back of the containers used. If all the containers used are from the same year and manufacturer, one set of photos will suffice.
- The approximate **volume of foam discharged or gallons of AFFF concentrate used**.
- Any **site features** that could allow rapid drainage of PFAS-containing AFFF into ditches, drains, or stormwater inlets.
- Estimated **area of the PFAS-containing AFFF use**.
- **Photos** that show the AFFF discharge, if possible.
- Accurate information on the **location** of the use and when the AFFF was applied.
- **Contact information** for the fire department and the property owner.



### **Best Practice – Disposal of PFAS-Containing AFFF and Other Waste**

AFFF concentrates are typically solidified and disposed of at hazardous waste landfills. Other types of PFAS waste (including empty containers) are also often disposed at hazardous waste facilities.

In Michigan, as in other states, other available disposal options for PFAS-containing waste or unused AFFF may include municipal waste landfills, deep well injection, PFAS treatment facilities, and incinerators. **However, facilities may choose not to accept known PFAS wastes. Before taking PFAS-containing waste to any facility, EGLE recommends contacting the facility for approval.**



### **Best Practice – Decontamination After Using PFAS-Containing AFFF**

If you use the same foam delivery system for both PFAS-containing and PFAS-free AFFF, rinse delivery system components (and turnout gear) to the extent practicable on-site after applying PFAS-containing AFFF. Be aware that even after substantial flushing, subsequent applications of water or PFAS-free AFFF using that delivery system will still be PFAS-contaminated.

When permanently switching from PFAS-containing to PFAS-free Class A and B foams, either replace or more thoroughly decontaminate equipment that previously contained PFAS-containing AFFF. Decontamination and replacement processes may vary depending upon the equipment. Due to the difficulty and expense associated with thorough and permanent decontamination of delivery systems, some fire departments have replaced components instead of decontaminating them. Fire departments should consider requesting assistance from a qualified environmental professional before undertaking decontamination. Decontamination processes often utilize detergents or specialized chemicals, along with multiple water rinses of the equipment, along with testing of the wastewater prior to disposal.



### **Best Practice – Store PFAS-Containing AFFF Properly**

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

- Store foam in accordance with manufacturer instructions and SDSs, and in a manner that prevents the leaking or discharge of AFFF to the environment.
- Do not allow containers of AFFF to freeze.

- Store AFFF containers in a sheltered building at ground level on a solid surface such as concrete or asphalt.
- Store AFFF in the original shipping containers, or in sturdy 55-gallon drums or plastic barrels, or double-walled above-ground storage tanks. Five-gallon pails of AFFF may also be stored on spill containment pallets or trays. Do not stack the containers more than three high to prevent containers from falling over or being crushed.
- Clearly label storage containers to identify the type of AFFF in them.
- Store containers in a manner that allows easy detection of signs or leakage.
- Keep material for absorbing releases of AFFF onsite (spill pads, floor dry, oil dry).
- Block drains in a storage area that may connect to a sanitary or storm sewer, or septic tank.
- Do not park fire trucks or response vehicles containing AFFF over floor drains.
- Use secondary containment methods to contain leaks and spills.
- Have two or more people available to move containers of AFFF.
- Have a spill safety plan in place.
- Keep track of your inventory--track the type of foam, date of purchase, lot number, brand, and manufacturer.

## ADDITIONAL INFORMATION

For more information on PFAS in firefighting foams, visit the MPART web page at: [Firefighting Foam and PFAS \(michigan.gov\)](#) If you have additional questions, you may contact EGLE via phone or email by searching “PFAS Contacts.”

### More Information

- [Interstate Technology Regulatory Council – General Information on PFAS](#)
- [Agency for Toxic Substances and Disease Registry \(ATSDR\) PFAS Frequently Asked Questions](#)
- [MPART's PFAS and Health web page.](#)
- [Michigan Department of Health and Human Services PFAS in Firefighters Project](#)

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