Firefighting foam use, replacement and disposal

Firefighting foams are essential tools used by fire departments and others to protect lives and property. However, firefighting foams can potentially cause risk to public health and the environment if improperly handled or disposed. The Minnesota Pollution Control Agency (MPCA) regulates the use and disposal of firefighting foams, in coordination with the Minnesota Department of Commerce (Commerce), the Minnesota Department of Health (MDH), and the State Fire Marshal Division of the Minnesota Department of Public Safety (SFMD). This fact sheet presents the MPCA's requirements and recommendations for firefighting foams.

Firefighting foams can be generally categorized as:

- Class A- for structural fires, and dry fuels like wood and paper.
  The majority of firefighting foam used in Minnesota is Class A foam.
- Class B- for flammable liquids, such as petroleum, gasoline, diesel, and jet fuel.
  Class B foam is used less frequently than Class A foam, but performs a vital role in vehicle, energy and chemical sector, military, and airport incident responses.

Class A foam

Class A foams are generally considered nontoxic and will biodegrade over time. Excess foam and unusable Class A foam concentrate may be discharged to a sanitary sewer if preapproved by the operator of the publicly owned treatment works (POTW, commonly known as a sewage treatment plant) receiving the discharge. Fire departments are encouraged to take reasonable steps they can during and after an incident to prevent finished Class A foam and foam-containing firefighting runoff water from entering stormwater systems or flowing to surface waters. Debris from fires on which Class A foam was used may be managed as solid waste.

Class B foam

Most legacy Class B foams contain intentionally-added fluorine-based compounds known as *per- and poly-fluoroalkyl substances (PFAS,* previously also known as *perfluorinated chemicals*, or *PFCs)*. PFAS are not a single chemical, but a family of fluorine-containing compounds that persist in the environment, are known to bioaccumulate and cause human health risks, and that have contaminated land and water in Minnesota.

Firefighting foam users in Minnesota must assume that any legacy Class B foam and combination Class A/B foam concentrates contain PFAS unless the users have documentation from the manufacturer or another authority that shows that a specific Class B foam concentrate is fluorine-free (also known as *fluorine-free foam*, or *F3*).

Note: Class B foam concentrates marketed or labeled as "PFOS-free" or "PFOA-free" or "C8-free" may still contain PFAS and may not be fluorine-free. Though the acronyms are similar, PFOS and PFOA are specific single compounds in the larger PFAS family and were often replaced in Class B foam concentrates by other PFAS compounds or by fluorine-containing chemicals that can react to create PFAS. PFAS are not required to be listed on foam concentrate Safety Data Sheets even if present in the foam concentrate.

All use of PFAS-containing Class B foam in Minnesota is being phased out.
See Phasing out use of PFAS-containing foam on page 2 for timelines for different users.

The U.S. Department of Defense (DoD) has approved a new specification for fluorine-free Class B foam: MIL-PRF-32725. The U.S. Federal Aviation Administration (FAA) has stated that it will allow airport operators to use fluorine-free (F3) Class B foam that meets this standard to comply with FAA requirements.

F3 foams meeting the new DoD standard available for purchase are identified on the DoD's Qualified Products List. Search for 'qualified products list' and then 'MIL-PRF-32725' information on the DoD's Defense Standardization Program website at: https://www.dsp.dla.mil/.

In addition to F3 products that meet the new DoD standard, the MPCA will also allow Minnesota users to rely on an independent testing organization, the Green Screen Certified™ label, to identify F3 products. You may find more information and a list of F3 products at: https://www.greenscreenchemicals.org/.

Phasing out use of PFAS-containing foam

All use of firefighting foam containing intentionally-added PFAS is being phased out in Minnesota. Different users and locations have different timelines by which all use of PFAS-containing foam must be ended:

- Fixed systems in airport hangars; by the end of 2027.
- Oil refineries that have been explicitly granted a waiver by the SFMD; by the end of 2027. Refineries that have been granted a waiver must comply with all the use requirements of the SFMD waiver and of the legislation authorizing the waiver.
- All other oil refineries and terminals; by the end of 2025.
- Airports and users at airports, except for fixed systems in hangars; by the end of 2025.
- Municipal and rural fire departments and all other users and locations, by the end of 2023.

Reporting releases of PFAS-containing foam

Any use or release of PFAS-containing foam must immediately be reported by the user to the Minnesota Duty Officer. See More information on page 3.

Disposal of PFAS-containing finished foam and foam-containing runoff water

Used PFAS-containing finished foam and runoff water may not be disposed to a storm sewer without treatment and without the approval of the storm sewer system operator. Any disposal of collected PFAS-containing finished foam and runoff water to a sanitary sewer before or after treatment must be pre-approved by the sanitary sewer system operator. The MPCA recommends that finished PFAS-containing foam and runoff water be treated with granular activated carbon (GAC) filtration or other methods on-site or off-site until any detected PFAS is below the current MDH 'Health-Based Values for PFAS in Drinking Water', available on the MDH's website at: https://www.health.state.mn.us. Dilution with clean water is not treatment.

Disposal service for PFAS-containing foam and runoff water is available through the Minnesota Department of Administration's Cooperative Purchasing Venture (CPV) as well as disposal of PFAS-containing foam concentrate. Search for 'CPV' information on the Department of Administration's website at: https://mn.gov/admin/

Disposal of unused PFAS-containing foam concentrate

PFAS-containing foam concentrate may not be disposed to a storm sewer. PFAS-containing foam concentrate may not be disposed to a sanitary sewer unless preapproved by the sanitary sewer system operator. The MPCA recommends that PFAS-containing foam concentrate be disposed by either hazardous waste incineration or in a hazardous waste landfill after being solidified.

To arrange for disposal of unused PFAS-containing foam concentrate, fire departments and other users may:

- Contact your regional Very Small Quantity Generator (VSQG) Collection Program. See MPCA fact sheet #w-hw2-51, Very Small Quantity Generator Collection Programs, at: https://www.pca.state.mn.us/sites/default/files/w-hw2-51.pdf.
- Utilize the state hazardous waste management vendor contract (#H-69) through the CPV. Search for 'CPV' information on the Department of Administration's website at: https://mn.gov/admin/.
- Independently hire a hazardous waste disposal vendor.

Disposal of F3 finished foam and foam-containing runoff water

Excess F3 finished foam and foam-containing runoff water from testing or training, as well as unusable F3 foam concentrate, may be discharged to a sanitary sewer if preapproved by the operator of the POTW receiving the discharge. F3 finished foam and foam-containing runoff water from testing or training may not be discharged to stormwater systems or allowed to flow to surface waters.

All F3 users are encouraged to take reasonable steps during and after an emergency incident to prevent finished F3 foam and foam-containing firefighting runoff water from entering stormwater systems or flowing to surface waters. Debris from emergency incidents on which F3 foam was used may be managed as solid waste unless hazardous for other reasons, such as if it contains ignitable petroleum fuels.

Cleanup and remediation of sites contaminated with PFAS-containing foam

Releases of PFAS-containing foam may be subject to liability under the Minnesota Environmental Response and Liability Act (MERLA, also known as the 'State SuperFund' law). For more information on cleanup and site remediation under MERLA, contact the MPCA. See More information below.

Stormwater protection

Many industrial sites are subject to an Industrial Stormwater Permit. The new 2025-2030 Industrial Stormwater Multi-sector General Permit issued by the MPCA requires operators of sites that are subject to the Industrial Stormwater Permit and that have PFAS-containing foam to create spill response plans that address how PFAS-containing finished foam and foam-containing runoff water will be prevented from entering storm sewer systems or surface waters. Find a copy of the Permit at:
https://www.pca.state.mn.us/sites/default/files/wq-strm3-102g.pdf

To determine if your site is subject to the Industrial Stormwater Permit, visit the MPCA's guidance at:
https://www.pca.state.mn.us/business-with-us/step-1-do-you-need-a-permit

More information

Guidance in this fact sheet was compiled from Minn. Stat. 325F.072; and 2023 Session Law, Ch. 60, Art. 3, Sec. 31; in coordination with the SFMD, MDH, and Commerce, and incorporates regulatory interpretation decisions made by the MPCA on May 29, 2020; January 4, 2024; and May 17, 2024; and by the SFMD on September 3, 2025.

Minnesota Pollution Control Agency

Toll free (all staff) 1-800-657-3864
All staff 651-296-6300
..... https://www.pca.state.mn.us/

Minnesota Duty Officer

Toll free 1-800-422-0798
Metro 651-649-5451

State Fire Marshal Division

All staff..... 651-201-7200
..... https://dps.mn.gov/divisions/SFM/

Minnesota Department of Health

All staff..... 651-201-5000
..... https://www.health.state.mn.us/