



# Federal Aviation Administration

## National Part 139 Cert Alert

**\*\*Advisory\*\*Cautionary\*\*Non-Directive\*\*Advisory\*\*Cautionary\*\*Non-Directive\*\*Advisory\*\*Cautionary\*\*Non-Directive\*\***

**Date:** 10/4/2021 **No. 21-05**

**To:** All Title 14 CFR Part 139 Airport Operators

**Subject:** Part 139 Extinguishing Agent Requirements

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**Introduction.** This CertAlert informs Part 139 airport operators about changes to the military specification (MIL-PRF-24385F(SH)) for firefighting foam referenced in Chapter 6 of AC No.: 150/5210-6D. While the performance standard remains the same, the military specification no longer requires the use of fluorinated chemicals. One acceptable means of satisfying 14 CFR Part 139 requirements is to continue to use the existing approved foam which does contain fluorinated chemicals. However, FAA encourages certificate holders that have identified a different foam that meets the performance standard to seek approval for such foam from the FAA.

FAA staff are available to provide assistance or answer questions about how to pursue FAA approval for a foam that meets the performance standard but does not contain fluorinated chemicals. FAA staff can be reached using information provided in the “Point of Contact” field above. FAA expects that the U.S. Navy will provide a specification for a fluorine-free agent by January 31, 2023, and this specification will subsequently be adopted by the FAA.

In addition to the compliance options outlined above, FAA regulations provide for flexibility through the provisions outlined in 14 CFR §139.317(h) Extinguishing agent substitutions; 14 CFR §139.111 Exemptions; and 14 CFR §139.317(j) Methods and Procedures.

**Background.** One of the challenges facing the airport community is the issue of Per- and Polyfluoroalkyl Substances (PFAS), which are currently used in aircraft firefighting foam. FAA has been conducting significant research on fluorine-free firefighting foams to find a replacement with equivalent firefighting performance that eventually can be used at airports that are certificated under 14 CFR Part 139. FAA continues to partner with the Department of Defense (DoD) in efforts to find a firefighting foam that ensures the protection of the flying public with no impact on human health or the environment.

In 2014, FAA began preliminary design scoping for a \$5.1M Aircraft Rescue and Firefighting (ARFF) testing facility. This facility was completed in 2019, at which time significant testing began. As of the publication date of this Cert-Alert, over 400 research tests have been performed evaluating 15 commercially available, and prototype, fluorine-free firefighting foam products. FAA is currently focusing on new innovative foam formulations provided under research agreements with foam manufacturers/developers. These agreements were developed through a Broad Agency Announcement program. Under these agreements, the FAA works with foam developers to test their prototype formulations and provide feedback during product development.

Water is by far the most commonly used extinguishing agent in aircraft rescue and firefighting, since it is the only recommended agent by manufacturers to be used on brake and wheel fires. However, water alone is not a suitable extinguishing agent for aircraft fuel fires, unless foaming agents are added. AFFF is a firefighting agent specifically designed to fight hydrocarbon fuel fires and has proven to be very effective.

While FAA and DoD testing continues, interim research has already identified safety concerns with candidate fluorine-free products that must be fully evaluated, mitigated, and/or improved before FAA can adopt an alternative foam that adequately protects the flying public. The safety concerns FAA has documented include:

- Notable increase in extinguishment time;
- Issues with fire reigniting (failure to maintain fire suppression); and
- Possible incompatibility with other firefighting agents, existing firefighting equipment, and aircraft rescue training and firefighting strategy that exists today at Part 139 air carrier airports.

While FAA and DoD continue the national testing effort, the FAA reminds all Part 139 airport operators that while fluorinated foams are no longer required, the existing performance standard for firefighting foam remains unchanged (whether that foam is fluorinated or not). Airports that are currently certificated under Part 139 will remain in compliance through use of an approved firefighting foam that satisfies the performance requirements of MIL-PRF-24385F(SH). If a certificate holder identifies an alternative foam, not currently approved, that it believes satisfies the performance requirements, it may propose that agent to FAA for approval.

Additionally, FAA provides regulatory flexibility to Part 139 airport operators through the following provisions:

1. §139.317(h), **Extinguishing agent substitutions**, allows for other extinguishing agent substitutions authorized by the Administrator that may be made in amounts that provide equivalent firefighting capability.
2. §139.111 **Exemptions**, outlines a process for a certificate holder to petition the Administrator for an exemption.
3. §139.317(j) – **Methods and Procedures**, authorization for an alternate means of compliance referencing FAA Advisory Circulars as a means to satisfy standards and obligations imposed by regulation.

Airport operators that desire to discuss options that satisfy Part 139 requirements, other than the use of the existing approved foams, should contact their FAA Airport Certification Safety Inspector directly for more information.

The FAA currently does not require the discharge of firefighting foam at Part 139 Airports except during an actual emergency involving a fuel fire as documented in Cert-Alert 21-01 and Certification Policy Guidance 108. Airports must, however, provide evidence that the proportioning system is working in an acceptable manner for each vehicle required for its ARFF Index. Input based foam proportioning testing systems have been available for use since 2019 for airport operators to satisfy FAA safety inspections without discharging foam outside the vehicle. These systems are also eligible for FAA funding. If your airport has not yet acquired a foam testing system, FAA strongly encourages you to do so. For further information on these approved testing systems, reference:

[https://www.faa.gov/airports/airport\\_safety/certalerts/media/part-139-cert-alert-21-01-AFFF.pdf](https://www.faa.gov/airports/airport_safety/certalerts/media/part-139-cert-alert-21-01-AFFF.pdf)

Further, the FAA encourages airport operators (to the extent possible), to follow state and local requirements for containment and clean-up of firefighting foam discharged on the airport.

If you have further questions on this Cert-Alert, please reach out directly to your FAA Airport Certification Safety Inspector.



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