



# MATERIALS MANAGEMENT - FIRE CONTROL AGENTS

**ENVIRONMENTAL GUIDELINES**



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## PURPOSE

The purpose of the guideline is to provide guidance on DEN's expectations for properly procuring, storing, handling, and using fire control agents, as well as containment and disposal of firefighting foam waste. Following this guideline will prevent unnecessary air emissions, improper disposal, and soil/water contamination. Following the actions in this document is connected to DEN's compliance obligation for stormwater, sanitary, and air permits.

## ACTIVITY DEFINITION

Fire control agents include firefighting foams and dry chemicals. The activity of proper management and uses of fire agents include:

- properly procuring, storing, handling, and using fire control agents
- containing and disposing of firefighting foam waste
- system maintenance of ARFF Rigs by DFD and fire suppression systems located in aircraft hangars and at the Fuel Farm.

## EXPECTATIONS

Best Practices:

- Foam Product Procurement: Stay up to date on fire performance criteria and standards, prohibited products, available products that meet fire performance criteria and standards, and available products that meet fire performance criteria and are environmentally favored. Understand which products are third party verified for environmental characteristics, such as products certified to the Department of Defense Military Specification for AFFF<sup>1</sup> and the GreenScreen Standard<sup>2</sup>. Obtain available information from suppliers on environmental characteristics of products, such as their constituents, and the ecological toxicity and biodegradability of the product in concentrated form and as applied. Review environmental information contained in the product safety data sheet, ask for supplemental information from the supplier, and review additional information available from third party sources.
- Inventory Management: Maintain an up-to-date inventory of products. Track usage and reconcile the inventory to identify any losses. If there are losses investigate to determine the cause.
- Storage: Store fire control agents indoors, in appropriate containers in good condition (i.e. original containers that are labeled and don't pose risk to leakage), and utilize secondary containment. Inspect

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<sup>1</sup> US. Navy, MIL-PRF-24385F(SH). Performance Specification, Fire Extinguishing Agent, Aqueous Film-Forming Foam (AFFF) Liquid Concentrate for Fresh and Sea Water, 7 May 2019

<sup>2</sup> Clean Product Action. Standard for Firefighting Foam. Version 2.0 September 2020.



product storage areas, fire suppression systems, and firefighting foam waste structures and conduct maintenance as necessary to optimize performance.

- Best practice is to handle waste firefighting foam that contains PFAS as hazardous waste, and to handle waste firefighting foam that does not contain PFAS and waste dry agents, as special waste.
- Use in Training: When possible, conduct training with water only. When firefighting foam is used for training, use products that are PFAS free, and obtain verification of such from the product supplier. Provide for capture and disposal of firefighting foam waste.
- Use in Testing: Where possible, conduct testing with water only. If a firetruck or fire suppression system that has PFAS foam or Fluorine Free Foam must be tested using foam, review C.R.S. 24-33.5.1234 and C.R.S. 25-15-302(3.2) to determine on a case-by-case basis, if testing using PFAS foam or Fluorine Free Foam is allowed. When testing with any foam (including PFAS free foam), provide for capture and disposal of the firefighting foam waste.
- Minimize the potential for firefighting agents to be released through non-emergency events.
- Accidental Discharge: Train personnel on the foam fire suppression system, to minimize the potential for human-caused accidental releases. Conduct condition assessments, inspections, and preventative maintenance on the fire suppression system to minimize the potential for mechanical-caused accidental discharge. Follow standard protocol for aircraft handling while in the hangar, to minimize the potential for aircraft caused accidental discharge. Conduct condition assessments, inspections and preventative maintenance on the waste containment system to promote its capability to contain fire-fighting foam waste generated during an accidental discharge. Understand and plan for fire-fighting foam waste flow patterns and provide supplemental waste containment (i.e., spill kits) as appropriate. Train personnel to deactivate the foam suppression system quickly, in the event of an accidental discharge, to minimize waste volumes.
- Emergency Incident: Take preventative measures as described above. After taking immediate action to address the fire incident, evaluate the need for supplemental containment and deploy practices as appropriate. For example, for a rig-based firefighting incident, build berms and deploy spill kits to contain waste. For a fire suppression system-based incident, contain foam that may have left the hangar floor. Implement a plan for foam waste disposal.
- System flushing: System flushing may be necessary. In accordance with manufacturer's recommendations, piping systems and handlines associated with fire-fighting rigs must be flushed following any event where the foam system is activated. When possible flushing should occur in an area where the waste can be contained and collected for disposal. Structural suppression systems such as those located at hangars and the fuel farm may need to be flushed following deployment, to remove residual, or prior to water only system testing, to remove prior residual. Flushing waste should be contained and collected for disposal.
- Training: All applicable employees should be trained in appropriate procedures for use of fire control agents and containment and disposal of firefighting foam waste.
- Retain the following records:
  - Purchase records
  - Inventory records
  - Usage records
  - Waste management records (profiles, manifests, sample results, etc.). Operator must maintain waste management records at the facility for a minimum of 3 years.



- If a spill occurs, call DEN Communications Center immediately at 303-342-4200.

## Shall Not:

- Discharge or use of firefighting foam that intentionally contains per and poly-fluoroalkyl substances (PFAS) for testing or training purposes, is prohibited.

## REFERENCES

### Contacts

- DEN Environmental Services (Main Line): 303-342-2730; [DENEnvironmental@flydenver.com](mailto:DENEnvironmental@flydenver.com)

### Additional Resources

- C.R.S. 24-33.5.1234 Training restrictions with certain firefighting foams - penalty - exemptions - definitions – repeal
- C.R.S. 25-5-1303. Restriction on sale of certain firefighting foams - exemptions
- C.R.S. 25-15-302. Solid and hazardous waste commission - creation - membership - rules - fees - administration - definition
- 40 CFR 260-262 Federal RCRA Regulations
- 6 CCR 1007-3, Parts 260-262 State RCRA Regulations
- CDPHE WQCC Regulation No. 61: Colorado Discharge Permit System Regulations
- Metro Wastewater Reclamation District Rules and Regulations
- DEN Rules and Regulation 180