

NYS DEC AFFF Pickup Program

Matt Franklin
NYSDEC

Per- and Polyfluoroalkyl Substances (PFAS) are a group of chemicals used to make fluoropolymer coatings and products that resist heat, oil, stains, grease, and water. Fluoropolymer coatings are blends of resins and lubricants used in products such as water-repellent clothing, furniture, adhesives, paint and varnish, food packaging, heat-resistant non-stick cooking surfaces and insulation of electrical wires.

~ 2016 NY State began to better understand that PFOA, PFOS, “PFAS” was a widespread problem

Started in Hoosick Falls, NY

Realized that PFOS were also in firefighting foam

Developed a plan to remove “bad” foam from service

PFOA/PFOS Facility Identification Survey

Class B Fire Suppression Foam Usage Survey –
Fire Departments, Bulk Storage Facilities,
Airports, DOD Facilities

Class B Fire Suppression Foam Usage Survey –
New York State Fire Training Centers

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Bureau of Technical Support
625 Broadway, 11th Floor, Albany NY 12233-7026
P. (518) 402-9543 T.F. (518) 402-9547
www.dec.ny.gov

Fact Sheet Storage and Use of Fire Fighting Foams Under New Hazardous Substance Regulations

On April 25, 2016, the New York State Department of Environmental Conservation (DEC) completed an emergency rulemaking and concurrently proposed a formal rulemaking to list four new chemicals that may be found in Aqueous Film Forming Foam (AFFF) in the DEC list of hazardous substances. The list of hazardous substances is included in the DEC's regulation 6 NYCRR Part 597, "Hazardous Substances Identification, Release Prohibition, and Release Reporting."

What specific actions is DEC taking?

To address concerns about the potential environmental and public health impacts of these substances, DEC adopted an emergency rule that modifies the list of hazardous substances in Part 597 to include:

- perfluorooctanoic acid (PFOA-acid, Chemical Abstracts Service (CAS) No. 335-67-1),
- ammonium perfluorooctanoate (PFOA-salt, CAS No. 3825-26-1),
- perfluorooctane sulfonic acid (PFOS-acid, CAS No. 1763-23-1), and
- perfluorooctane sulfonate (PFOS-salt, CAS No. 2795-39-3)

How are these substances related to AFFF?

These substances have been and in some cases, may still be, components in AFFF. They form part of a class of chemicals called "perfluorinated compounds (PFCs)." Some of them, particularly the PFOS compounds, have been used as surfactants to improve the effectiveness of AFFF in fighting petroleum and other fires. In particular, AFFF manufactured by 3M Corporation and sold prior to 2004 contained PFOS. The use of PFOS in AFFF was voluntarily phased out by U.S. manufacturers in 2002. Inventories were sold through 2003. PFOS-based AFFF is still manufactured in other countries (e.g., China, India). Older AFFF that meets military specifications may contain PFOS. PFOA has also been used in some AFFF. The manufacture of PFOA in the U.S. was reportedly voluntarily phased out in 2015.

What impact does this have on storage and use of AFFF?

There are three major impacts of the rulemaking on the storage and use of AFFF:

1. If you are storing AFFF, you may be subject to the registration and storage requirements of the Chemical Bulk Storage (CBS) regulations (6NYCRR Parts 596 – 599). These requirements include standards for the storage and handling of hazardous substances in tanks or other bulk containers (details below).
2. The release of one pound or more of one of these hazardous substances to the environment is prohibited. Part 597 will allow the use of AFFF containing PFOS or PFOA for fighting fires (not for training) for one year until April 25, 2017.

May 4, 2016



Express Terms – 6 NYCRR Part 597

Table 1 - Alphabetical Order				
CASRN	Substance	<u>RQ Air (pounds)</u>	<u>RQ Land/ Water (pounds)</u>	Notes
<u>3825-26-1</u>	<u>Ammonium Perfluorooctanoate</u>	<u>1</u>	<u>1</u>	
<u>2795-39-3</u>	<u>Perfluorooctane Sulfonate</u>	<u>1</u>	<u>1</u>	
<u>1763-23-1</u>	<u>Perfluorooctane Sulfonic Acid</u>	<u>1</u>	<u>1</u>	
<u>335-67-1</u>	<u>Perfluorooctanoic acid</u>	<u>1</u>	<u>1</u>	

June 23, 2016

Chemguard

Director, Product Stewardship & Regulatory Affairs

120,000 gallons of foam concentrate with 1 ppm PFOS/PFOA would need to be released into the environment before reaching the 1 pound reportable quantity limit. This would equate to approximately 4,000,000 gallons of foam solution at a nominal 3% proportioning rate.



Information Bulletin

Guidance to Fire Departments Regarding Foam Concentrates Which May Contain Hazardous Substances

The New York State Office of Fire Prevention and Control (OFPC), based upon current regulatory requirements promulgated by the Department of Environmental Conservation (DEC) and related guidance developed by that agency, offers the following recommendations:

1. Discontinue use of any Class B foam concentrate for training purposes due to potential environmental concerns.
 - a. OFPC recommends use of training foam, Class A wetting agents or a mild dish detergent verified not to contain materials listed as hazardous substances for the purpose of conducting Class B foam training.
2. Review the guidance document "**Storage and Use of Fire Fighting Foams Under New Hazardous Substance Regulations**" provided by DEC regarding changes to **6 NYCRR Part 597 Hazardous Substances Identification, Release Prohibition, and Release Reporting** in its entirety.
3. Work with the manufacturer of any foam concentrate currently in inventory to determine if it contains materials now classified as a hazardous substance or represents other environmental hazards.
4. Based upon that determination, comply as necessary with DEC rules and regulations regarding reporting, storage and any potential use or spill of a hazardous substance, including notification if applied at an actual incident.
 - a. Note that use of foam concentrates containing the hazardous substances indicated is permitted for firefighting (not training) until April 25, 2017 to allow agencies time to identify and replace those concentrates while maintaining foam capabilities necessary to provide for public safety in the meantime.
5. As required by DEC regulation, properly dispose of foam concentrate identified as containing a hazardous substance as indicated within the guidance provided by DEC.
 - a. OFPC recommends properly disposing of any foam concentrate for which the manufacturer, type or age cannot be determined.
6. Appropriate measures should be taken to confine any Class B foam applied at an incident for vapor suppression or fire control purposes, in addition to those steps taken to confine the hazardous material that the foam was applied to (often these measures will be mutually supportive). Finished foam applied to a spill should be cleaned up along with the spill itself by an appropriate party (i.e. approved clean up contractor).

Additional information **6 NYCRR Part 597 Hazardous Substances Identification, Release Prohibition, and Release Reporting** is available here: <http://www.dec.ny.gov/regulations/104968.htm> . Questions regarding that regulation or the "**Storage and Use of Fire Fighting Foams Under New Hazardous Substance Regulations**" guidance document should be directed to the NYS Department of Environmental Conservation's Bureau of Technical Support, Division of Environmental Remediation at 518-402-9543 or by email at derweb@dec.ny.gov .

phone: 518.474.6746 • fax: 518.474.3240 • web: www.dhSES.ny.gov/ofpc

An Office of the New York State Division of Homeland Security and Emergency Services

Began in January 2017
(Pollution Prevention/DER)

April 2017 EPF Language “..up to \$500,000 for the removal and appropriate disposal of firefighting foam containing regulated perfluorinated compounds from municipal fire and emergency response departments..”

Added another \$100,000 in 2018

“Municipal fire and emergency response departments” should be understood as including the following entities:

- City fire departments
- Village fire departments
- Fire districts
- Not-for-profit fire companies – exist to provide fire services via contract to: towns (fire protection districts); fire districts, villages and/or cities
- County/Regional teams (i.e. hazmat team)

And Not

- Airport authorities that have fire departments (Please note that there may be municipal airports that have fire departments)
- Industrial fire brigades
- Rail yards/fuel terminals
- Federal fire departments (i.e. Fort Drum)

Targeted Class B firefighting foam

- Any foam manufactured by 3M
- Any foam manufactured before 2003 or where the date of manufacture is unknown
- Any foam that is unlabeled
- Any foam that is mixed with other foams

In particular, AFFF manufactured by 3M Corporation and sold prior to 2004 contained PFOS. The use of PFOS in AFFF was voluntarily phased out by U.S. manufacturers in 2002. Inventories were sold through 2003. PFOS-based AFFF is still manufactured in other countries (e.g., China, India). Older AFFF that meets military specifications may contain PFOS. PFOA has also been used in some AFFF. The manufacture of PFOA in the U.S. was reportedly voluntarily phased out in 2015.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Emergency Management Director
605 Broadway Albany, NY 12242
Tel: (518) 402-9535
www.dec.ny.gov

June 22, 2017

Mr. Francis Nurney, Jr.
New York State Homeland Security and Emergency Services
Fire Prevention and Control
State Office Campus
1220 Washington Avenue
Building 7A, 2nd Floor
Albany, NY 12226

Dear Mr. Nurney:

As you are aware, the 2017 New York State budget appropriated \$500,000 for the "removal and appropriate disposal of firefighting foam containing regulated perfluorinated (sic) compounds from municipal fire and emergency response departments". Based on the language in the budget, this money is to be used for disposal only and not for the purchase of replacement foam. We are asking for Fire Prevention and Control's assistance in coordinating these efforts.

We currently plan on targeting the following types of Class B firefighting foam:

- Any foam manufactured by 3M.
- Any foam manufactured before 2003 or where the date of manufacture is unknown.
- Any foam that is unlabeled.
- Any foam that is mixed with other foams.

The DEC is requesting that Fire Prevention and Control provide the following:

- Make contact with the municipal fire and emergency response departments through their appropriate county coordinators to ascertain the volume of foam they have that meet the above criteria and inform them that these foams should not be used. In addition, let them know that the State will be collecting these foams for proper disposal.
- Find a suitable location central to each county that can be used as a collection point.
- Have Fire Prevention and Control staff available during scheduled collection times to discuss any foam related issues that pertain to firefighting.



DEC worked with DHSES/State Fire

DEC Arranged contractor and disposal

State Fire worked with Fire Departments/Chiefs to set up collection points

Contractors worked with collections points to gather material

How to handle?

- Sample containers

- Disposal methods

3 Different Contractors

- Different Geographic Areas

- Different rates

All required to dispose of by incineration

Some consolidated material

Some disposed of in roll-offs

Sampling costs – \$225.00/sample

Disposal options

Consolidating/storage options

Disposal Facilities

Stericycle

Environmental Services, Inc.

ACV Environmental

ARC

Can we get reimbursed if we already disposed of material?

Can you re-supply us with foam?

When will this be done?

What else can we use?

What happens if we need to use foam?

DEC Regions –

1 – Long Island
8,140 Gallons
\$3.59/Gal

2 – NYC
0 Gallons

3 – Hudson Valley
6,490 Gallons
\$8.38/Gal

5 – North Country
3,905 Gallons
\$5.32/Gal

4,6,7,8,9 - Rest of the State
13,795 Gallons
\$9.11/Gal

Total – 32,330 Gallons
\$7.11/Gal

Example of AFFF use and potential problems

70 ppt is EPA's current Health Advisory Level (HAL) for the sum of PFOA and PFOS in drinking water. There is no current state Soil Cleanup Objective for PFOA and PFOS.

The Drinking Water Quality Council is expected to meet before the end of the year to recommend MCLs for certain emerging contaminants, including PFOA and PFOS.

Led to listing of 2 sites as Class 2 on the DEC's Registry of Inactive Hazardous Waste Disposal Sites (NYS Superfund Program)

This classification is assigned to a site at which:

the disposal of hazardous waste has been confirmed and the presence of such hazardous waste or its components or breakdown products represents a significant threat to public health or the environment: or

hazardous waste disposal has not been confirmed, but the site has been listed on the Federal National Priorities List (NPL).

Two Class 2 sites have been designated so far based on AFFF

Newburgh –

Stewart Air National Guard Base – Two 2000-gallon releases of AFFF concentrate due to human error and mechanical failure, foam use during an aircraft fire, and routine training activities have contaminated the City of Newburgh’s drinking water reservoir with PFOS and other PFAS.

Westhampton Beach –

Gabreski Air National Guard Base – Releases from fire training activities along the southern portion of the site have contaminated groundwater and private drinking water wells. 64 residences south of the airport have been connected to municipal water supplies by Suffolk County Water Authority, funded by NY State.

10/18/2016 – Fire/Explosion reported at the Mohawk Asphalt Facility in Glenville (Schenectady County)

Employees were filling a tanker with asphalt emulsion (50/50 mix of asphalt and kero)

Heating the valve with a torch

Vapors ignited and explosion occurred

1 minor injury, 2 deceased (10/19 and 11/3)

ANG foam truck to scene and applied foam

Used appx 180-200 gallons of finished product

Contained to secondary containment

Asphalt liner was cleaned

Water was collected on site then properly disposed of

Samples were taken through ~8/30/17

Detections were finally low enough that they were allowed to discharge collected water

Mohawk Asphalt Fire applying foam



Mohawk Asphalt Aerial View



What was the outcome of all this work?

NYS Fire created foam task force and regional foam banks

Counties consolidated their foam

Counties re-considered their need for foam

In February 2016, Governor Cuomo created a Water Quality Rapid Response Team, led by DEC and DOH, to quickly investigate water contamination reports across New York and take corrective action to address these contamination issues. This team is seen as a national model to research, identify and quickly address water contamination in communities. The WQRRT has been working to identify and address drinking water issues across the state, including sampling of public water and private wells around facilities suspected or known to have used PFAS.

120,000 gallons of foam concentrate with 1 ppm PFOS/PFOA would need to be released into the environment before reaching the 1 pound reportable quantity limit. This would equate to approximately 4,000,000 gallons of foam solution at a nominal 3% proportioning rate.

However -

70 ppt is EPA's current Health Advisory Level (HAL)

C-6 Type Foams – proven

Fluorine free foams - unproven

Documents on the WWW -

Per- and Polyfluoroalkyl Substances (PFAS)

Storage and Use of Fire Fighting Foams – Fact Sheet

NYS Water Quality Rapid Response Team

AFFF use (past and present) is a complicated issue

Need it to put certain types of fires out

Incredibly costly clean-up

All about finding the happy medium

Matt Franklin

NYSDEC

Director of Emergency Management

625 Broadway

Albany, NY 12203

matt.franklin@dec.ny.gov

518-402-9555 (o)

518-857-9462 (c)