

February 1, 2018

Federal Update: Regulation of Foam Blowing Agents

Margaret Sheppard, Team Leader
Significant New Alternatives Policy (SNAP) Program
Office of Atmospheric Programs
U.S. Environmental Protection Agency



ANTITRUST POLICY STATEMENT FOR SPRAY POLYURETHANE FOAM ALLIANCE MEETINGS

- ▶ It is and shall remain the policy of the Spray Polyurethane Foam Alliance ("SPFA"), and it is the continuing responsibility of every SPFA member company, SPFA meeting or event participant, as well as SPFA staff and leadership to comply in all respects with federal and state antitrust laws. No activity or discussion at any SPFA meeting or other function may be engaged in for the purpose of bringing about any understanding or agreement among members to (1) raise, lower or stabilize prices; (2) regulate production; (3) allocate markets; (4) encourage boycotts; (5) foster unfair or deceptive trade practices; (6) assist in monopolization; or (7) in any way violate or give the appearance of violating federal or state antitrust laws.
- ▶ Any concerns or questions regarding the meaning or applicability of this policy, as well as any concerns regarding activities or discussions at SPFA meetings should be promptly brought to the attention of SPFA's Executive Director and/or its legal counsel.





Evaluates alternatives & lists alternatives as:

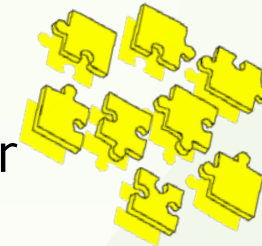
- Acceptable - those that reduce overall risk to human health & environment
- Acceptable with use restrictions - if needed to ensure safe use
- Unacceptable

Sectors include:

- Aerosols; Foams; Refrigeration and A/C; Solvents; Fire Suppression; Adhesives, Coatings, Inks, etc.

Considers:

- Ozone Depletion Potential
- Global Warming Potential
- Flammability
- Toxicity
- Local Air Quality
- Ecosystem Effects
- Occupational & Consumer Health/Safety





Status of Recent Rules

- ▶ July 2015 final rule was challenged in court
 - ▶ D.C. Circuit Court issued decision in August 2017 (*"Mexichem Fluor v. EPA"*)
 - ▶ Majority opinion was to remand and vacate the rule "to the extent it requires manufacturers to replace HFCs with a substitute substance"
 - ▶ On January 26, 2018, Court denied requests from intervenors and others to grant rehearing
- ▶ Petition before court concerning December 2016 final rule
 - ▶ Parties to consider recent court decision





Status Change Dates for Spray Foam (12/2016 Rule)

| End-Use | | Change of Status Date* |
|--|-----------------------------|------------------------|
| • Rigid PU spray foam | One-component foam sealants | January 1, 2020** |
| | High pressure two-component | January 1, 2020**,† |
| | Low pressure two-component | January 1, 2021**,† |
| • Military and space and aeronautics-related uses in all foam blowing end-uses except rigid PU one-component foam sealants | | January 1, 2025**,† |
| <p>*Refer to final rule for specific substitutes changing status</p> <p>**Changes status for various HFCs and HFC blends</p> <p>†Narrowed use limit for space / aeronautics applications until January 1, 2025</p> | | |





Closed Cell Foam Products

- Unacceptability determinations for foam blowing agents apply to use of closed cell foam products and products that contain closed cell foam
 - Applies where the products are manufactured on or after the change of status date
- Won't apply to rigid PU one-component foam sealants or low pressure two-component spray foam
 - May use can or kit if manufactured before change of status date (1/1/2020 for one-component foam sealants, 1/1/2021 for low pressure two-component spray foam)
- For high pressure two-component spray foam, effective as of 1/1/2020





Acceptable Blowing Agents For Rigid PU Spray Foam

Acceptable for all
types of spray foam:

- ▶ CO₂
- ▶ Ecomate
- ▶ Exxsol blowing agents
- ▶ Formic acid
- ▶ HFC-152a
- ▶ HFO-1234ze(E)
- ▶ *Trans*-1-chloro-3,3,3-trifluoroprop-1-ene
- ▶ Water

Acceptable for
high-pressure
two-component
spray foam:

- ▶ HFO-1336mzz(Z)





SNAP Website

www.epa.gov/snap

Significant New Alterna x +

← → ↻ | 🛡️ epa.gov/snap 📖 ☆ | ≡ 🖨️ 📧 ...

Add to the favorites bar by selecting ☆, or by getting them from another browser. [Import your favorites](#)

EPA United States Environmental Protection Agency

Environmental Topics Laws & Regulations About EPA 🔍

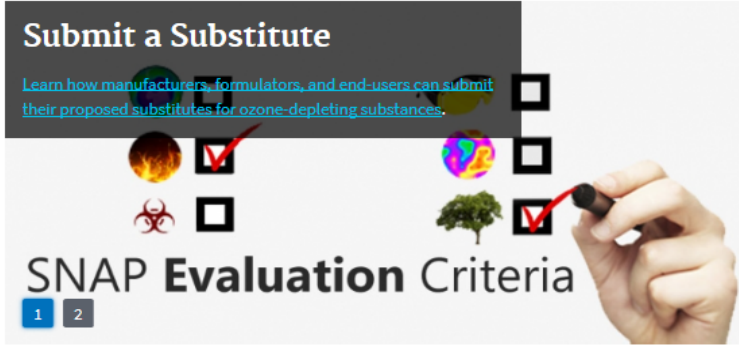
Significant New Alternatives Policy (SNAP) Program

CONTACT US

SHARE [f](#) [t](#) [p](#) [e](#)

Submit a Substitute

[Learn how manufacturers, formulators, and end-users can submit their proposed substitutes for ozone-depleting substances.](#)



SNAP Evaluation Criteria

1 2

What's New

[EPA publishes a Direct Final Rule and accompanying Notice of Proposed Rulemaking to modify use conditions for flammable refrigerants in household refrigerators and freezers \(12/11/2017\)](#)

SNAP was established under Section 612 of the Clean Air Act to identify and evaluate substitutes for ozone-depleting substances. The program looks at overall risks to human health and the environment of existing and new substitutes, publishes lists and promotes the use of acceptable substances, and provides the public with information. [Learn more about the SNAP program.](#)

About The Program

- [Overview of SNAP](#)

SNAP Decisions

- [Acceptable & Unacceptable Substitutes](#)

Substitutes by Industrial Sector

Windows taskbar: 11:21 AM 1/10/2018



Browser window showing the EPA website: <https://www.epa.gov/snap/snap-substitutes>. The page title is "SNAP Substitutes by Sector".





EPA United States Environmental Protection Agency

Search EPA.gov

Environmental Topics Laws & Regulations About EPA

Significant New Alternatives Policy (SNAP)

CONTACT US

SHARE    

SNAP Home

Overview of SNAP

SNAP Regulations


SNAP Substitutes by Sector

- Substitutes in Refrigeration and Air Conditioning
- Substitutes in Foam Blowing Agents
- Substitutes in Cleaning Solvents
- Substitutes in Fire Suppression and Explosion Protection
- Substitutes in Aerosol Solvents and Propellants


SNAP Substitutes by Sector

EPA's decision on the acceptability of new substitutes is based on its understanding of the overall risk to the environmental and human health impacts posed by the substitutes as compared with other substitutes available for a particular end-use. For more information about EPA's evaluation of each substitute in an end-use, see the [Overview of SNAP](#).

Substitutes by Industrial Sector

 **Refrigeration and Air Conditioning**

End-uses in this sector typically use a refrigerant in a vapor compression cycle to cool and/or dehumidify a substances or space, like a refrigerator cabinet, room, office building, or warehouse.

 **Foam Blowing Agents**

Foam blowing agents are used in a wide variety of applications including refrigerators, buildings, automobiles, furniture, packaging, and many more. The







Browser address bar: <https://www.epa.gov/snap/substitutes-foam-> Substitutes in Foam Blowing...

File Edit View Favorites Tools Help

Environmental Topics Laws & Regulations About EPA Search EPA.gov

Significant New Alternatives Policy (SNAP)


CONTACT US

SHARE    

- SNAP Home
- Overview of SNAP
- SNAP Regulations
- SNAP Substitutes by Sector
 - Substitutes in Refrigeration and Air Conditioning
 - Substitutes in Foam Blowing Agents**
 - Substitutes in Cleaning Solvents
 - Substitutes in Fire Suppression and Explosion Protection
 - Substitutes in Aerosol Solvents and Propellants
 - Substitutes in Sterilants
 - Substitutes in Tobacco Expansion
 - Substitutes in Adhesives, Coatings, and Inks
- Submit a SNAP Substitute

Substitutes in Foam Blowing Agents

Foam blowing agents encompass a wide variety of applications including refrigerators, buildings, automobiles, furniture, packaging, and many more. The blowing agent is used to create a cellular structure from liquid plastic resin, and in the case of foam used for insulation it functions as an insulating component of the foam.



End Uses

[Rigid Polyurethane: Appliance](#)
Appliance foam includes insulation foam in domestic refrigerators and freezers.

[Rigid Polyurethane: Spray](#)
Spray foam includes insulation for roofing and walls.

[Rigid Polyurethane: Commercial Refrigeration](#)
Commercial refrigeration foam includes insulation for pipes, walls and metal doors in commercial refrigeration equipment, vending machines, coolers, buoyancy, and refrigerated transport vehicles.

[Rigid Polyurethane: Marine Flotation Foam](#)

Key Documents

[Environmental, Health, and Flammability Info on Substitutes for HCFC-22 and 142b](#)

Related Resources

[Questions & Answers about Foam Blowing](#)

Windows taskbar: Type here to search | 100% | 10:39 AM 9/26/2017



11



Other Sources of Information

- ▶ Technical and Economic Assessment Panel (TEAP) Progress Report May 2017
 - ▶ <http://conf.montreal-protocol.org/meeting/oewg/oewg-39/presession/Background-Documents/TEAP-Progress-Report-May2017.pdf>
- ▶ American Carbon Registry methodology for quantification, monitoring, reporting and verification of greenhouse gas emissions reductions from *Destruction of Ozone Depleting Substances and High-Global Warming Potential Foam*
 - ▶ <http://americancarbonregistry.org/carbon-accounting/standards-methodologies/destruction-of-ozone-depleting-substances-and-high-gwp-foam>
- ▶ ASTM papers on measuring indoor air quality when using spray PU foam (SPF)
 - ▶ *Developing Consensus Standards for Measuring Chemical Emissions from Spray Polyurethane Foam Insulation*, STP 1589, February 2017
 - ▶ https://www.astm.org/DIGITAL_LIBRARY/STP/SOURCE_PAGES/STP1589.htm
- ▶ ASTM D8142 emissions test method for SPF emissions using micro-scale chamber recently finalized
 - ▶ ASTM D 22.05 Subcommittee for indoor air quality
 - ▶ <https://www.astm.org/COMMIT/SUBCOMMIT/D2205.htm>



Thank you!



Contact Information:

Margaret Sheppard, SNAP Team Leader

sheppard.margaret@epa.gov

(202) 343-9163

Chenise Farquharson, SNAP Coordinator

farquharson.chenise@epa.gov

(202) 564-7768

