SoyFoam™ TF 1122

Cross Plains SOLUTIONS

GREENSCREEN CERTIFIED GOLD FIREFIGHTING FOAM 20241003 2.2(1e) cpa

The First and Only GreenScreen Certified Gold™ Fire Foam

Named one of the Top 50 Greatest Innovations of 2025 by Popular Science!

GREEN CHEMISTRY CHALLENGE

ACS Chemistry for Life®

2025 AWARD WINNER

Focus Area 3: Design of Safer & Degradable Chemicals

Cross Plains Solutions, LLC

SoyFoam™: A farm to fire solution

GREEN CHEMISTRY CHALLENGE AWARDS

A next-generation Class A and B firefighting foam made from U.S.-grown soy, delivering proven fire suppression power without PFAS while providing a more sustainable way to protect communities and firefighters.

CrossPlainsSolutions.com

What is SoyFoam™?

SoyFoam™ TF-1122 is a 'Fluorine Free' biobased, biodegradable and certifiable direct release to our environment firefighting foam concentrate. This product is made from U.S. Soy and other agricultural products. SoyFoam™ TF-1122 is engineered to be a safe fire combatant while also protecting our firefighters and our communities. SoyFoam™ TF-1122 has demonstrated vapor suppression on a variety of Class B hydrocarbon fuel sources and Class A woodland materials. There are no special handling requirements and is designed to work with traditional foam concentrate dispensing equipment.

OUR MISSION:

To create a safe & environmentally friendly firefighting foam that not only contains no PFAS but also no fluorinated chemicals, made from rapidly renewable and sustainable soybeans grown by U.S. farmers.

"We've used it on structure and automobile fires with outstanding results."

-Jeff King, Assistant Chief, Corydon, KY Fire Department, the first fire department to make the switch to SoyFoam™

Highlights

Clean Production Action has designated SoyFoam as GreenScreen Certified Gold™

SoyFoam™ TF-1122 is the only firefighting foam to have a GreenScreen Certified Gold™ rating, achieved October 3, 2024.

100% Free of PFAS

Test Method US EPA Draft 1633 PFAS Appendix B Analysis, July 5, 2023 SoyFoam™ TF-1122 Results, Non-Detectable (< 1 ppb)

Biodegradability

OECD 301B, March 10, 2023

SoyFoam™ TF-1122 to be 'READY' Biodegradable

Soil Biodegradability

ISO 17556:2019, November 3, 2023

SoyFoam™ TF-1122 achieved 91.6% after 180 days biodegradation, and 69% after 18-days! The standard requirement is 60% after 180 days.

Aquatic and Mammalian Toxicity

Toxicity (Aquatic & Mammalian) - Non-toxic

OECD (201, 202, 203), Acute Oral LD_{50} >5,000 mg/kg

Bio-Content

ASTM D68666-22 Method (AMS) TOC, January 21, 2023 70% biobased Carbon Content

USDA BioPreferred

USDA Certified SoyFoam™ TF-1122 at 84% biobased, which is the highest of any firefighting foam today, achieved September 25, 2023.

We are in the process of certifying the SoyFoam™ technology for other entities

Department of War

An independent lab has validated that SoyFoam™ has passed all of the 9 burns required by MIL-PRF 32725 on Jet A and gasoline fuels. We are in the process of becoming fully certified, but it can take up to 18-months. Our team is working closely with the Environmental Protection Agency, Naval Research Laboratory, and Federal Aviation Administration to expedite the process.

U.S. Forest Service

The Wildland Fire Chemical Systems division is conducting testing and certification in accordance with fs5100-307b. This process takes 18-24 months but is a requirement to be on their Qualified Products List (QPL).

UL-162

SoyFoam™ has passed the elusive UL-162 fire extinguishment requirements. A case with Underwriters Laboratory has been opened to achieve full certification.

Frequently Asked Questions

1. What makes SoyFoam™ TF-1122 different from existing conventional foams?

SoyFoam™ TF-1122 is a wetting/smothering agent capable of extinguishing Class A and Class B fires, eliminating intentionally added PFAS chemicals. It contains no detectable fluorines (less than 1 part per billion) in the foam concentrate. SoyFoam is the only GreenScreen Certified Gold™ firefighting foam in the World and is the only foam made from our very own US Farmer soybeans.

2. What types of fires does SoyFoam™ TF-1122 work on?

Class A (ordinary combustibles) and Class B (non-polar hydrocarbon flammable liquids). SoyFoam is not an Alcohol Resistant foam for polar hydrocarbon flammable liquids like ethanol.

3. Does SoyFoam™ TF-1122 require changes in equipment, staffing, or apparatus inspections?

No. SoyFoam™ TF-1122 is compatible with existing foam inductors and aerating nozzles. It does not require changes in staffing or Standard Operating Procedures (SOPs) for Class A and B fires, nor does it increase the need for apparatus inspections. For clarification, it can not pass through any foam inductor with a screen size greater than 20 mesh or the size of a simple bacon splatter screen. Some onboard foam inductors have 80 mesh screens and were designed for AFFF PFAS foams. SoyFoam will blind these screens over and will prohibit foam flow.

4. Does SoyFoam™ TF-1122 require changes in firefighting tactics?

No. Firefighting tactics and SOPs do not need to be changed when using SoyFoam™ TF-1122.

5. Does SoyFoam™ TF-1122 perform like conventional foam?

Yes. SoyFoam™ TF-1122 meets the four burn requirements for Class A and Class B fire extinguishments in accordance to NFPA 18 standard on wetting agents.

“I don’t want to fill up somebody’s house with something that’s going to give them cancer later”

-John Hejl, Chief of Casselton Fire Department, the first fire department in North Dakota to adopt SoyFoam™

Frequently Asked Questions

6. Is SoyFoam™ TF-1122 as stable as conventional foam?

Yes. SoyFoam™ TF-1122 has a projected shelf life of 10 years.

7. Does SoyFoam™ TF-1122 cost more?

SoyFoam™ TF-1122 is cost competitive to current foam solutions.

8. How can fire departments purchase SoyFoam™ TF-1122?

Cross Plains Solutions is working with third-party vendors for distribution. Visit our website to find yours.

10. How does SoyFoam™ TF-1122 impact decontamination, out-of-service time, and cleaning costs?

Although SoyFoam™ TF-1122 is free of harmful PFAS chemicals, it's still recommended to follow current decontamination policies and procedures.

11. What delivery options are available for SoyFoam™ TF-1122?

It is available in 8-ounce bottles, 5-gallon pails, 55-gallon drums, and 250-gallon totes.

12. How does the product perform in extreme temperatures?

SoyFoam™ TF-1122 can be frozen, heated, thawed and still be fully functional.

Watch our video on how firefighters and farmers are teaming up on this safer solution for communities and first responders

Thank you for showing interest in SoyFoam™ biobased fluorine-free foams.

Cross Plains Solutions, supported by the United Soybean Board, has demonstrated SoyFoam™ across multiple states and fire departments. SoyFoam™ technology continues to be introduced nationwide through expos and collaborations.

For more information, visit crossplainssolutions.com or follow us on social media:

LinkedIn: Cross Plains Solutions
Facebook: Cross Plains Solutions
X: @CrossPlainsSoy
YouTube: @CrossPlainsSolutions

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Because of the potential for biobased products to create new markets for soybeans, U.S. soybean farmers have invested millions of dollars to research, test, and promote biobased products. Much of this work was done through the United Soybean Board, which is composed of 77 U.S. soybean farmers appointed by the U.S. Secretary of Agriculture to invest soybean checkoff funds. As stipulated in the Soybean Promotion, Research and Consumer Information Act, USDA's Agricultural Marketing Services has oversight responsibilities for the soybean checkoff.

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