

TECHNOLOGY READINESS LEVEL: 5

KEY ELEMENTS HAVE BEEN DEMONSTRATED IN RELEVANT ENVIRONMENTS.

US PATENT # 7,850,865

TECHNOLOGY SUMMARY

The current emergency response to a terrorism attack involving a radiological dispersion device is a blast suppression and dispersion mitigation foam. The foam is deployed over the radiological dispersion device to fully cover it. If the device is activated, the foam will reduce the blast overpressures, which will reduce collateral damage caused by the blast. The foam currently requires fifty, five-gallon drums of a foam concentrate called AFC-380, which can be a logistical and weight burden to emergency responders. In order to reduce the burden on the user, Sandia National Laboratories has developed a highly concentrated foam formulation that can be used for blast suppression and dispersion mitigation in responding to a terrorism event that involves a radiological dispersion device.

The new formulation has a 2% foam concentrate and has a greater expansion ratio and higher foam stability than AFC-380. In order to make 100 gallons of finished product, the new formulation only requires 2 gallons of foam concentrate, compared to the 6 gallons of the AFC-380 foam concentrate. This difference reduces the weight and logistical burden on the user by approximately 67%.



Blast Tests

Top: Without foam mitigation

Bottom: With the foam mitigation

POTENTIAL APPLICATIONS

- Homeland Security
- Public Safety
- Emergency First Responders
- Local and Federal Agencies
- Military Applications

TECHNOLOGICAL BENEFITS

- Reduces the logistical burden on the user by approximately 67%
- Has a greater expansion ratio and higher foam stability than previous formulations
- Reduces collateral damage caused by a blast by suppressing the blast
- Cost Effective, Greater Efficiency

TECHNOLOGY INQUIRY?

Contact us for more information or licensing opportunities at

ip@sandia.gov

Refer to SD # 10479

or

<https://ip.sandia.gov>