



TECHNOLOGY READINESS LEVEL: 6

US PATENT # 8,012,411

A PROTOTYPE HAS BEEN TESTED IN A RELEVANT ENVIRONMENT

TECHNOLOGY SUMMARY

Traditional techniques in dealing with a toxic cloud released by a terrorist attack or an industrial accident suffer from an extremely limited shelf life and are often difficult to handle in the field. Because these types of events are seldom planned, a solution needs to be available which can be stored for extended periods of time while still maintaining its effectiveness. This solution itself should also be non-toxic in order to prevent injury to personnel involved in the clean-up process.



Sandia's DF-200 formulation can be sprayed into a toxic cloud to neutralize the toxic material while the material is still airborne. Because DF-200 is both non-toxic and noncorrosive, and has been shown to effectively neutralize a wide range of chemical and biological warfare agents (e.g., anthrax spores, Yersinia pestis, mustard gas, GD/VX/HD nerve gas agents, hydrogen cyanide, sodium cyanide, butyl isocyanate, and anhydrous ammonia among others), it is a natural choice for safely neutralizing toxic clouds. This formulation co-disperses two different drop size distributions; a small one suitably tailored to scavenge the airborne contaminant, and a larger one suitably tailored to hasten the fallout of the smaller distribution. Various spray deployment schemes can be utilized to allow the cloud to pass through the neutralization spray including the use of fans or an array of sprays in a balloon-supported curtain. Because the components of the foam can be placed in separate containers and mixed just prior to deployment, the shelf-life is extremely long.

POTENTIAL APPLICATIONS

- Chemical Spills
- Terrorist Attacks
- Industrial Accidents

TECHNOLOGICAL BENEFITS

- Non-toxic
- Non-corrosive
- Long shelf-life
- Effective for various agents
- Provide neutralization while still airborne

TECHNOLOGY INQUIRY?

For more information or licensing opportunities contact us at

ip@sandia.gov

Refer to SD # 7922

or

<https://ip.sandia.gov>