

Safe Meals

TDA Research, Inc., Wheat Ridge, CO
Sponsored by the U.S. Army Natick Soldier Center

US. Service personnel eat approximately 30 million pre-packaged meals – known as Meals Ready to Eat (MREs) – every year. MREs come in a single package including a heater unit, but the current MRE heaters have a problem: the magnesium used in the water releases highly flammable hydrogen. In addition to posing a hazard to soldiers, this complicates transportation and storage of MREs.

TDA Research, Inc. has developed a non-flammable heater for MREs. Their innovative concept provides two sources of heat when activated with water: hydration and neutralization. This at the same time makes the heaters self-neutralizing and fail-safe. TDA's heaters weigh less than two ounces, require only one ounce of water, produce no gaseous byproducts, and cost significantly less than the current heaters.



After completing their Phase II effort, TDA conducted additional development under a cost sharing agreement through the competitive DoD Dual Use Applications Program. Current projections call for TDA's Nonflammable Ration Heater to save as much as 10 cents per unit, resulting in millions of dollars in annual savings for the Army.

PHASE III IMPACTS



\$100,000 Dual Use Applications Program funding from Army and DARPA

- ◆ Commercial applications in outdoor and meals-to-go marketplaces



U.S. Patent 5935486



1997 Army Phase II Quality Awards Winner