



MIOX CORPORATION

LIGHT-WEIGHT, PORTABLE WATER PURIFICATION DEVICE



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Topic Number: N03-159
(MARCOR)

SBIR Investment: \$98.6K
Project Revenue: \$1.5M

MIOX Corporation

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The Mountain Safety Research MIOX hand-held purifier

About the Technology

For troops on reconnaissance missions, the availability of clean drinking water directly correlates with survival and mission success. Depending upon climate and mission requirements, Marines must carry over 25 pounds of water for a 72-hour mission, to avoid dehydration. MIOX Corporation partnered with Mountain Safety Research (MSR), now part of Cascade Designs Incorporated (CDI) to develop and commercialize water purifier that utilizes salt, water and power to generate a strong disinfectant solution. When the solution is added to untreated water, it rapidly and effectively inactivates a number of common water-borne pathogens, including E. coli, Giardia, and Cryptosporidium. The water purifier is effective against several chemical and biological warfare agents as well. The MSR MIOX purifier provides the warfighter with a portable, light-weight water purification device that alleviates the expense and difficulties of water logistics. The purifier does not require pumping, which is an advantage in a hostile environment where water must be captured quickly and treated under cover.

The MSR MIOX purifier has been deployed to both Iraq and Afghanistan. The device disinfects water collected from streams, rivers, and lakes, and is safe to drink after treatment with the purifier. MIOX received funding to develop other components for a complete hydration system. The hydration system currently under development includes a 3 liter hydration bag, a disinfection device in the cap of the bag, and a filter for removing particles and other contaminants from raw water.

Military and Commercial Significance

The MSR MIOX purifier allows troops to purify water in any environment, and complies with the Environmental Protection Agency standards for microbiological purifiers (bacterial removal to 6 logs, viral removal to 4 logs, and protozoan cyst removal to 3 logs). The purifier operates in Nuclear, Biological, and Chemical (NBC) environments, and tests on selected NBC contaminants have shown it to be effective in removal and destruction of those contaminants.

About the Company

MIOX Corporation was incorporated in 1994 and is a high technology growth company in the Rio Grande corridor. The SBIR/STTR program enables MIOX to research and develop the miniaturization of its existing municipal water purification technologies. Miniaturization of this technology has provided MIOX Corporation with the design basis for a variety of small-system applications. MIOX Corporation partnered with CDI to commercialize the efficient, sleek, light-weight hand-purifier for military and civilian functionality.

APPLICATIONS

- Military - Portable water purification
- Commercial: Outdoor enthusiasts and international travelers
- Humanitarian: Disaster relief and water treatment for compromised water