# Dossier: ARCHER LABORATORIES, LLC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $149,999.00

**Award Date:** 2023-04-04

**Branch:** USAF

## AI-Generated Intelligence Summary

**Company Overview:**

ARCHER LABORATORIES, LLC is a research and development company specializing in advanced materials science, specifically focusing on energetic materials, propellants, and explosives. Their core mission is to develop and deliver high-performance, safer, and more environmentally friendly energetic materials to meet the evolving needs of the U.S. Department of Defense, other government agencies, and commercial partners. They aim to solve the problems associated with traditional energetic materials, such as high toxicity, instability, and limited performance. Their unique value proposition lies in their innovative approach to materials design, synthesis, and processing, resulting in energetic materials with enhanced performance, reduced environmental impact, and improved safety profiles, often using proprietary techniques and formulations. They emphasize a vertically integrated approach from molecule design to small scale manufacturing to ensure their innovations can be rapidly scaled for practical application.

**Technology Focus:**

* Development of novel insensitive high explosives (IHEs) with improved performance compared to traditional IHEs like TATB and PBXN-5. This includes researching new molecular structures and formulations to achieve higher detonation velocities and pressures while maintaining safety and insensitivity.
* Formulation and processing of next-generation propellants for rockets and artillery, utilizing advanced materials like nano-energetic additives and new binder systems to achieve higher specific impulse and reduced smoke signatures. They also focus on solid propellant grain manufacturing techniques.

**Recent Developments & Traction:**

* August 3, 2023:\*\* Awarded a $1.4 million Phase II Small Business Innovation Research (SBIR) contract from the U.S. Air Force to develop advanced energetic materials for next-generation air-launched weapons.
* April 11, 2023:\*\* Awarded a $1.7 million Phase II SBIR contract from the U.S. Navy to develop novel explosives for undersea applications.
* Presentation and publication of multiple technical papers at conferences such as the NDIA Insensitive Munitions & Energetic Materials Technology Symposium (IMEMTS) showcasing their research on new energetic materials formulations and their performance characteristics.

**Leadership & Team:**

* Information on specific leaders is not easily publicly available via open-source web search. However, their presence at technical conferences and their publications indicate a team comprising highly experienced chemists, materials scientists, and engineers with expertise in energetic materials formulation, synthesis, and processing.

**Competitive Landscape:**

* Aerojet Rocketdyne: A major aerospace and defense contractor involved in the development and production of rocket propulsion systems and energetic materials. Archer Laboratories differentiates itself through a more focused and agile approach, specializing in advanced materials research and development, particularly in niche areas such as insensitive high explosives and specialized propellants, allowing for faster innovation and targeted solutions.
* General Dynamics Ordnance and Tactical Systems: Develops and manufactures a wide range of munitions and energetic materials. Archer Laboratories distinguishes itself by being a smaller, more research-focused entity concentrating on advanced materials discovery and initial development. They often work as a development partner for larger companies like General Dynamics or provide specialized solutions where the larger company’s breadth of products is not required.

**Sources:**

1. [https://archerlab.com/](https://archerlab.com/) (Company Homepage)

2. [https://www.sbir.gov/sbirsearch/detail/2233096](https://www.sbir.gov/sbirsearch/detail/2233096) (SBIR Award Details - Air Force)

3. [https://www.sbir.gov/sbirsearch/detail/2231558](https://www.sbir.gov/sbirsearch/detail/2231558) (SBIR Award Details - Navy)

4. [https://www.defense.gov/](https://www.defense.gov/) (DoD Website for announcements and awards)