GEORGE MASON UNIVERSITY

Battery Additives

GMU-26-007

Cold-Resistant Performance – Enhanced Conductivity – Scalable Upgrade

This innovation improves how batteries work in cold environments, where most batteries normally lose power or stop functioning well. The technology adds a small amount of a chemical, *thiazole,* to a commonly used battery liquid (the electrolyte). Thiazole helps keep the electrolyte from thickening or freezing and allows electricity to move through the battery more easily, even in very cold conditions.

By making batteries more reliable at low temperatures, this additive helps improve the performance of many devices and systems that must operate in harsh climates.

Because thiazole has not previously been used this way, the approach expands the tools available to improve battery performance, offering a simple but powerful enhancement to existing battery designs.

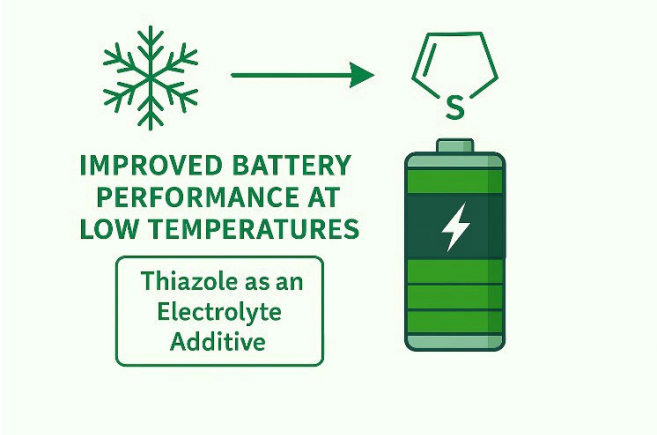
Features

- Simple, improved low-temperature battery performance to existing systems
- Enhanced ion mobility and conductivity
- Better battery lifespan and stability
- Novel additive with no known prior use in batteries
- Potential compatibility with multiple cold-climate applications

Ideal Applications

Electric vehicles, drones, underwater equipment, aerospace technologies, and energy storage systems used in cold regions.

Stage of Development: Proof of Concept and Modeling Complete



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