

# TECHNOLOGY AVAILABLE FOR LICENSING

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UNIVERSITY of



DAYTON

## Hydrogen Gas Generation from Aluminum Nanoparticles and Water

### Advantages:

- Lightweight
- Safe to transport (versus other methods of hydrogen production)
- No additional additives necessary
- Generate large quantities of hydrogen quickly

### Applications:

- Field-portable power
- Any technology that can use portable hydrogen as a fuel source

### Description:

The desire for technologies that utilize hydrogen gas for power generation has increased in recent years. However, the use of hydrogen for such applications requires readily available, safe, and environmentally friendly access to hydrogen. This invention meets those needs – a new class of energetic nanoparticles composed of an aluminum core protected by a unique, two component shell that prevents oxidation of the aluminum in ambient air, but readily allows the oxidation of the aluminum in water to yield hydrogen gas.

### IP Status:

<https://patents.google.com/patent/US9011572B1/en>

<https://patents.google.com/patent/US20150266730A1/en>

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