ACTIVATION COMPOUNDS FOR HYDROGEN GENERATION

Producing Hydrogen from Aluminium with non-toxic by-products

Technology Overview

The North-West University (NWU) has developed and patented a method for producing hydrogen via hydrolysis, using an activated aluminium compound.

They HYSA Infrastructure Centre of Competence at NWU focuses on the research and development of hydrogen technologies, which can be implemented for energy solutions.

Technology Benefits

- Aluminum also can be recycled after hydrogen production process.
- Hydrogen can be produced under high pressure.
- By-products are not toxic.
- Any type of water can be used for hydrogen production without purification.
- Hydrogen is produced of a high purity.

Market Opportunity

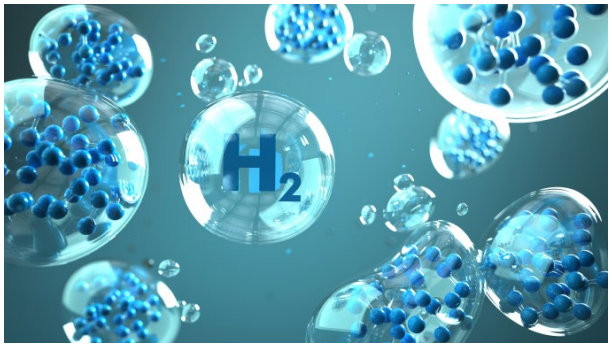
Hydrogen generation from cost-effective and easily available sources is essential to commercialize proton exchange membrane (PEM) fuel cells. On-site hydrogen production for some important niche applications attracts a lot of interest. These applications include use of hydrogen in fuel cells for UAV, emergency power supply, some military applications, electrical chargers. Water is a cost-effective source with high hydrogen content and is available abundantly. Notably, aluminium has plentiful reserves and excellent properties.

Project status

Netherlands patent granted - NL2017962B1

South African patent granted - 2017/08276

The technology has been demonstrated on a lab scale.



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