

Lithium–sulfur batteries

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By mixing sulfur into carbon nanofibers the sulfur forms a rare rectangular prism structure made of eight sulfur atoms instead of the normal crown structure. This rectangular prism structure stops the formation of polysulfides completely. Instead, lithium sulfide forms directly, allowing the battery to work unimpeded.

Sulfur is cheap, abundant, and has a low density which could lead to lithium–sulfur batteries having advantages especially for applications where energy density is critical – like aviation.



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1. What is the name for different structures of the same element?
2. Explain what happens to the reactions in a cell when a cell is recharged.
3. Suggest why a Li–S battery could have advantages for use in aviation.



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