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LITHIUM TRIANGLE

Lithium has become the new 'white gold' as the demand for high performing rechargeable batteries is rising.

- Lithium Triangle is an intersection of Chile, Bolivia and Argentina, known for high quality salt flats.
- Salar de Uyuni in Bolivia, Salar de Atacama in Chile and Salar de Arizaro in Argentina contains over 45% of known global lithium reserves.
- Beneath Salar de Uyuni, the world's largest salt flat lies the world's greatest lithium deposits.
- Bolivia, one of South America's poorest countries, envisions development by harvesting lithium on an industrial scale from underground saltwater brines.
- It can be mined from rock or processed from brine.
- Lithium dissolved in underground saline aquifers called "brine", pumped to surface by wells and then allowed to evaporate in vast knee-deep ponds.

Uses of Lithium

- Lithium stearate is mixed with oils to make all-purpose and high-temperature lubricants
- **Lithium alloys with lead to make 'white metal' bearings** for motor engines, **with aluminum to make aircraft parts**, and **with magnesium to make armour plates**.
- Lithium metal has the highest specific heat of any solid element and so heat transfer applications
- Lithium is used as battery anode material (high electrochemical potential) and lithium compounds are used in dry cells and storage batteries

- Lithium is used in the manufacture of special high strength glasses and ceramics sometimes, lithium-based compounds such as lithium carbonate (Li_2CO_3) are used as drugs to treat manic-depressive disorders.

Lithium in India

- India, through a state-owned company Khanij Bidesh India Ltd , signed a pact with an Argentine firm to jointly prospect lithium in Argentina
- Khanij Bidesh India Ltd — incorporated in August, 2019 by three state-owned companies, NALCO, Hindustan Copper and Mineral Exploration Ltd, with a specific mandate to acquire strategic mineral assets such as lithium and cobalt abroad .

Potential Sites for lithium deposits in India

- Researchers at the Atomic Minerals Directorate (under India's Atomic Energy Commission) have estimated lithium reserves of 14,100 tonnes in Southern Karnataka's Mandya district.
- The major mica belts in Rajasthan, Bihar, and Andhra Pradesh.
- Pegmatite (igneous rocks) belts in Odisha and Chhattisgarh.
- Brines of Sambhar and Pachpadra in Rajasthan, and Rann of Kachchh in Gujarat.



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