



RAW MATERIALS FOR DECARBONISATION

Lithium

What is lithium?

Lithium is a soft, silvery-white to grey alkali metal with a metallic lustre when fresh. It is highly reactive and in air quickly tarnishes to a dull silvery-grey and then black.

How is lithium used?

Its physical and chemical properties make it useful in many chemical and metallurgical applications, for example lubricating greases, ceramics and glass, aluminium production and batteries. In the UK lithium is primarily used in the manufacture of lithium-ion batteries.

Where is lithium found?

Lithium is found in economic concentrations in two main types of mineral deposit:

- Minerals — primarily extracted from lithium aluminosilicates (spodumene, petalite, eucryptite) — found in pegmatite deposits.
- Brines — extracted from continental brine deposits (i.e. salt lakes and salt pans in South America).

Does the UK import lithium?

The UK imports lithium in several forms, which include lithium carbonate, lithium oxide and lithium hydroxide. In 2017 the UK imported 1919 tonnes of lithium carbonate and a combined 324 tonnes of lithium oxide and hydroxide.

Where does lithium occur in the UK?

Lithium primarily occurs as a minor element in the mica found in granite and granite pegmatites, especially in south-west England.

Other lithium minerals such as amblygonite, spodumene, petalite, montebrasite and elbalte are very rare and have only been documented at a few localities in the UK.



Figure 1 Lepidolite - an ore of lithium. P811646.