

**21 February 2019****ASX ANNOUNCEMENT****LITHIUM AUSTRALIA'S LieNA® PROCESS OFFERS AN ALTERNATIVE TO  
CONVENTIONAL SPODUMENE REFINING****HIGHLIGHTS**

- **Lithium Australia's 100%-owned LieNA® process represents a step change in spodumene refining by way of improved resource utilisation and potential regeneration of reagents.**
- **Based on the success of LieNA® research and development (R&D) to date, Lithium Australia believes further process development is warranted, and has begun the next stage of this at ANSTO.**

Lithium Australia (ASX: LIT) developed and owns the LieNA® process, which is designed specifically to overcome the shortfalls inherent in conventional 'conversion' processes that recover lithium from spodumene.

As discussed at *121 Mining Investment* in South Africa (see ASX announcement dated [4 February 2019](#)), the LieNA® process replaces thermal conversion of spodumene with conversion at a lower temperature using caustic soda (see Figure 1 below). Once converted, the lithium is selectively leached and recovered as tri-lithium phosphate.

LieNA® offers a number of potential advantages over conventional spodumene conversion, including:

- improved resource utilisation, due to its ability to process fine spodumene concentrates;
- the ability to regenerate reagents used in the process;
- lower energy consumption;
- a smaller environmental footprint, and
- removal of the requirement for sodium sulphate production.

Lithium Australia recently completed preliminary R&D on the process at ANSTO, supported by a conceptual engineering assessment on the applicability of the LieNA® flowsheet to spodumene feed material. The outcomes of this indicated that further development of the process was warranted.

During the next stage of R&D, already commenced at ANSTO, final product synthesis, refining and the recycling of reagents will be examined.

The aim of this work effort, which is scheduled to continue throughout 2019, is to confirm sufficient technical criteria to commit to a pilot plant programme.

# LieNA® process steps

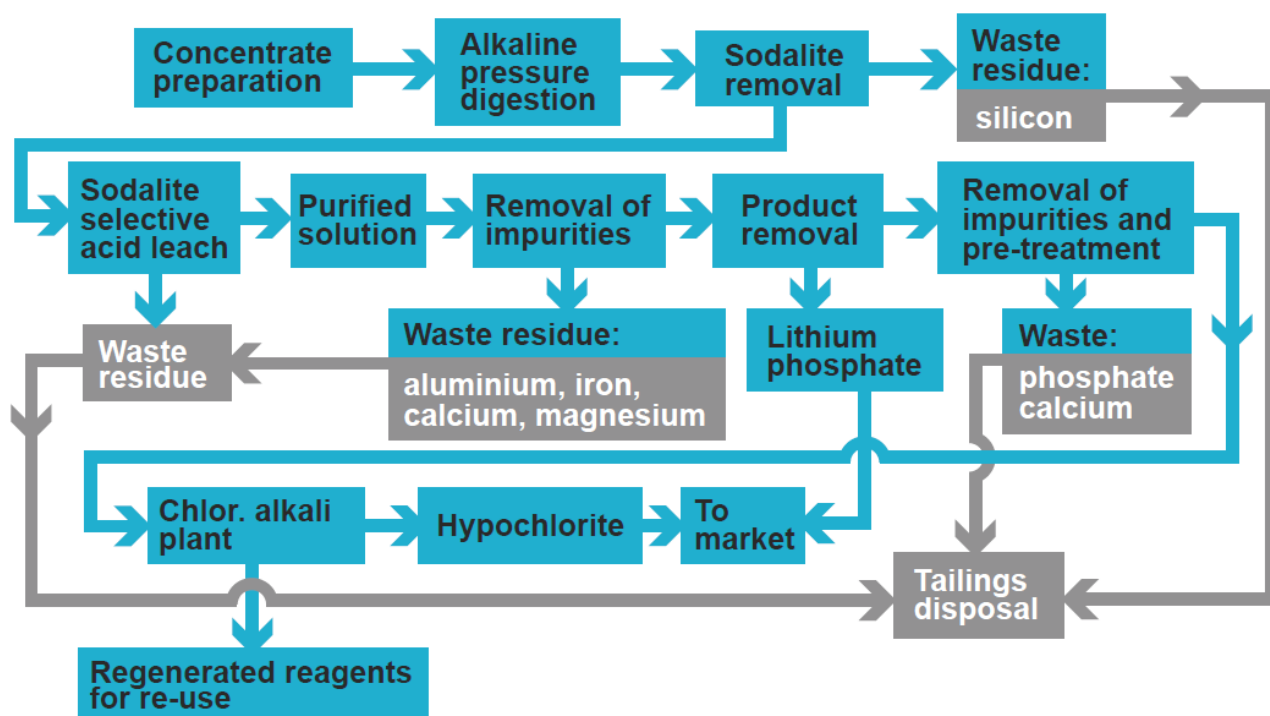


Figure 1. Simplified LieNA® process flowsheet.

## COMMENT FROM LITHIUM AUSTRALIA MANAGING DIRECTOR ADRIAN GRIFFIN

“The application of LieNA® to the production of lithium chemicals from spodumene and petalite concentrates removes some of the constraints inherent in conventional lithium refining. LieNA® has the potential to provide a flexible, environmentally conscious and commercially competitive option for the treatment of spodumene concentrates.”

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## ABOUT LITHIUM AUSTRALIA NL

Lithium Australia aspires to 'close the loop' on the energy-metal cycle in an ethical and sustainable manner. To that end, it has amassed a portfolio of projects and alliances and developed innovative extraction processes to convert *all* lithium silicates (including mine waste) to lithium chemicals. From these chemicals, the Company plans to produce advanced components for the lithium-ion battery industry. The final step for Lithium Australia involves the recycling of spent batteries and e-waste. By uniting resources and the best available technology, the Company aims to establish a vertically integrated lithium processing business.

## MEDIA CONTACTS

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