



ALTECH CHEMICALS LIMITED (ASX: ATC)(FRA: A3Y) EMERGING HIGH PURITY ALUMINA PRODUCER

Company Information	
ASX Code	ATC
Share Price (15/03/2019)	A\$0.14
Ordinary Shares	572.6m
Options	Nil
Performance Rights	28.7m
Market Cap	A\$80m
Cash (31-Dec-18)	~A\$4.0m
Total Debt	Nil
Enterprise Value	A\$76m
Directors and Management	
Non-Exec Chairman	Luke Atkins
Managing Director	Iggy Tan
Non-Exec Director	Dan Tenardi
Non-Exec Director	Peter Bailey
Non-Exec Director	Tunku Ya'acob Khyra
Alternative Director	Uwe Ahrens
Company Secretary	Shane Volk
Company Details	
Address	8/295 Rokeby Road, Subiaco, WA 6008
Phone	+61 8 6168 1555
Web	www.altechchemicals.com
Top Shareholders	
Melewar/MAAG	8.9%
SMS group	6.8%
Board and Management (excl Melewar)	6.0%
Top 20	43.7%
6-month Price Chart	

Altech Chemicals Limited (Altech/the Company) is aiming to become one of the world's leading suppliers of 99.99% (4N) high purity alumina (Al₂O₃) through the construction and operation of a 4,500tpa high purity alumina (HPA) processing plant at Johor, Malaysia. Feedstock for the plant will be sourced from the Company's 100%-owned kaolin deposit at Meckering, Western Australia and shipped to Malaysia. HPA plant construction is by German engineering firm SMS group, and Stage-1 construction commenced in February 2019. Altech's production process will employ conventional "off-the-shelf" plant and equipment to extract HPA using a hydrochloric (HCl) acid-based process. Production costs are anticipated to be considerably lower than established HPA producers - in the bottom quartile of the production cost curve. The Project is a high margin, high value proposition.

High Demand Market

HPA is a high-value (USD28,000 – USD40,000 per tonne) high margin and highly demanded product, as it is the critical ingredient required for the production of synthetic sapphire and is increasingly consumed in the manufacture of lithium-ion batteries. Synthetic sapphire is used in the manufacture of substrates for LED lights, semiconductor wafers for the electronics industry, and scratch-resistant sapphire glass used for wristwatch faces, optical windows and smartphone components. There is no substitute for HPA in the manufacture of synthetic sapphire. Lithium-ion battery manufacturers require HPA as a coating for the plastic anode/cathode separator to reduce separator shrinkage and combustibility. Global HPA demand is approximately 25,315tpa (2016) and demand is growing at an annual rate of 16.7%.

Project Economics

Applying the current HPA price of **USD40kg**, the NPV of the project is **USD1.1b**, the IRR 33%, payback is 2.2 years and EBITDA **USD133m p.a.** at full production.

Conservative (bank case) cash flow modelling of the Project shows a pre-tax net present value of **USD505.6m** at a discount rate of 7.5%. The **payback period is 3.8 years** at full rate (**4.5 years** real) and the pre-tax internal rate of return is **21.9%**. The Project generates annual average net free cash of **~USD76m** at full production (allowing for sustaining capital and before debt servicing and tax), with an attractive margin on HPA sales of **~63%**. Annual sales revenue is **USD120.3m** applying a conservative FOB sales price of USD26,900/t of finished product HPA. Operating costs, including mining, shipping and chemical processing average USD44.6m p.a. or USD9,900/t of HPA.

Off Take Secured

Altech has executed a 10-year off take sales arrangement with Mitsubishi Corporation's Australian subsidiary, Mitsubishi Australia Ltd (Mitsubishi) for production from the Company's Malaysian HPA plant. The Agreement appoints Mitsubishi as the exclusive buyer of the HPA from the plant and will commence on the date of first shipment of final HPA product. The contracted sale quantities will mirror Altech's proposed HPA plant's production ramp up.

Project at Funding Stage

The Company has been successful of securing senior project debt finance of **US\$190 million** with German government owned KfW IPEX-Bank as sole lender. The debt package consists of **US\$170 million** of Export Credit Agency (ECA) cover under German-backed project finance export guarantees; this debt is around 3.5% interest rate with a 14 year term. The additional USD20m of senior debt is at normal commercial terms with a 5-year repayment period. On 8 March 2019, Altech announced that it had mandated Macquarie Bank (Macquarie) as the preferred mezzanine lender for its HPA project. The indicative and non-binding mezzanine debt (subordinate to senior debt) term sheet is for a facility amount of up to USD90 million. Macquarie's appointed independent technical advisor has undertaken a detailed project review, which resulted in positive report and concludes that the Company has suitable proposed mitigation steps to manage identified technical risk areas. Macquarie has proceeded to market and legal due diligence and financial modelling. The next step will also include inter-creditor discussions with KfW and target for a binding term sheet will be by end Q2 2019.

On the final project equity, the Company current preference is to sell up to 50% of the project to a joint venture partner and to share any remaining project equity component. Various parties have been evaluating the project via access to the project data room.

German EPC Contract Executed

German engineering firm SMS group GmbH (SMS) is the appointed EPC contractor for construction of Altech's Malaysian HPA plant. SMS has provided a fixed price turnkey contract and has proposed clear and concise guarantees to Altech for plant throughput and completion. In addition, having prior experience with the kaolin-HPA HCl processing technique that Altech will use, SMS has proposed process and final product guarantees that will meet the 99.99% HPA quality specification of Mitsubishi. The guarantee provided by SMS are extremely positive outcomes that significantly mitigate project risk. SMS is a large privately owned German engineering firm with annual turnover of approximately 3.3 billion Euros. SMS has recent EPC contract experience in Malaysia, having successfully completed the Sakura smelting project, in Sarawak.

Construction Commencement at Johor

Altech raised A\$ 21 million mid last year to commence the site establishment and Stage-1 construction works in Johor, Malaysia. Overall, Stage-1 work has been steady and is building. The site is gradually moving from the establishment phase into the construction phase. Altech is conducting this share placement to raise funds to commence Stage-2 construction, which like Stage-1 will run concurrently to project financial close, maintaining project momentum. The construction phase is expected to be 24 months with first finished product for sale is expected in 2021.

Corporate

Altech Chemicals Limited is listed on the Australian Securities Exchange and the Frankfurt Stock Exchange, with 572 million shares on issue. Board and Management control ~18% of Company shares. Non-executive director Tunku Yaacob Khrya has a ~9% stake in the Company via the holdings of Malaysian publicly listed company MAA Group Berhad (~6%) and the Melewar group (~2%). SMS group (the appointed EPC contractor) holds 6.8%. The top 20 shareholders account for 44% of shares on issue.

The Company's Board consists of Luke Atkins (Chairman), Iggy Tan (CEO & Managing Director), Dan Tenardi (NED), Peter Bailey (NED), Tunku Yaacob Khyra (NED) and Uwe Ahrens (Alternate Director). The current market capitalisation of the Company is circa A\$92 million.

The Company is led by Iggy Tan (CEO & Managing Director) who has 30 years experience in the chemical and mining industry. Mr Tan was a trail blazer in the lithium industry, establishing Galaxy Resources Limited with current market capitalisation of A\$1.2 billion.

Energy Saving & Environment Friendly Project

The Altech HPA project is considered an energy saving and resource efficiency project which will generate substantial reduction in greenhouse gases during the life of the project. The current industry standard of producing HPA is utilising high grade aluminium metal as a feedstock, dissolving in alcohol, hydrolysing and calcining back to alumina. This process known as the “alkoxide” process, is energy and emission intensive. The Altech process does not use aluminium metal but uses a benign ore feedstock (kaolin) to produce HPA product in one single processing step. The Altech process is considered to be highly disruptive to the HPA industry, but also energy saving, has a lower CO₂ foot print and resource efficient.

The project will realise a 46% reduction of greenhouse gases per tonne of HPA from Altech’s low energy kaolin-alumina process. Altech’s process will have a comparative carbon footprint of 6.6 tonne CO₂ per tonne HPA versus 12.3 tonne CO₂ per tonne HPA for the alkoxide process. Altech’s project will also realise a 41% reduction of energy consumption per tonne of HPA from Altech’s low energy kaolin-alumina process. Altech’s process has a comparative energy consumption of 45 GJ per tonne HPA versus 77.4 GJ per tonne HPA for the bauxite-aluminium-alkoxide process.

HPA is a critical ingredient required for the production of synthetic sapphire. Synthetic sapphire is used in the manufacture of substrates for LED (light emitting diodes) lights. LEDs are proving to be the environmentally friendly lighting of the future with potential electricity savings of eighty (80%) percent compared to incandescent lighting. The forecast production of LED units is expected to increase from 0.8 billion units to 4.1 billion units by 2025. With this growth, Altech has estimated a reduction of 77 million tonnes of CO₂ per annum, just from new LEDs being implemented and used in the future. Without HPA, this reduction of greenhouse gases will not be possible.

HPA is also used in lithium-ion battery as an important coating in separators as well as anodes and cathodes to prevent shrinkage, combustibility and improved battery safety and life. Lithium-ion batteries are the key source of energy storage to support the renewable energy sector. HPA is a critical ingredient in supporting the renewable energy sector.



Altech’s Proposed 4,500 tpa HPA plant

For more information, please contact:

Corporate

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