



Altech Chemicals
Limited

QUARTERLY REPORT

March 2020

Construction Update

- Electrical substation nearing completion and construction was ahead of schedule
- Excellent safety performance on site
- Site works currently suspended due to Malaysia's COVID-19 movement control order

European Initiatives

- Posting of Altech alternate director to Germany
- Support for impending Altech Advanced Materials AG ~€69.4m capital raise
- Increased engagement with burgeoning European lithium-ion battery sector

Mezzanine Debt Update

- Update meeting in London with Macquarie Bank
- Re-affirmed interest for a US\$90 million mezzanine facility

4N HPA in Solid State Lithium Ion Batteries

- Improved lithium-ion battery safety by moving to a solid state electrolyte
- 4N HPA is likely to play a key role in solid state lithium-ion battery
- Usage likely to be higher for future solid state batteries

Controlled Placement Agreement

- Provides Altech with standby equity capital facility of up to \$10 million
- Altech controls if and when the CPA is utilised and the size and value of any placement

Green Credentials of Altech HPA Process

- Comparative study completed on greenhouse gas reduction and energy savings
- 46% reduction of greenhouse gases per tonne of HPA
- HPA supports the lithium-ion battery and renewable energy sectors

Test work program with Fraunhofer Institute

- HPA test work by internationally renowned Fraunhofer-Gesellschaft research organisation
- Fraunhofer Institute specialises in lithium-ion battery and separator technology research
- Impact of alumina impurities on battery safety

AAM AG signed mandate with Swiss international bank

- Bank will act as agent for AAM placement
- Bank is well advanced in compiling an initial list of potential investors

First step taken to access Green Bond Market

- Potential green investor funding
- Centre of International Climate and Environmental Research (CICERO) appointed
- Working to AAM appointed Swiss bank green bond framework

AAM AG re-commenced capital increase

- AAM re-commenced its capital increase process
- Shareholder approved on 12 March 2020

Experienced German Auto Executive appointed to AAM AG Supervisory Board

- Mr Wilko Stark appointed to the supervisory board of AAM
- Previous member of the divisional board of Mercedes-Benz Cars, Germany
- Formerly CEO and group leader of Daimler's battery electric vehicle strategy

Construction Update

Construction at the Company's Johor HPA site (stage 2) continued ahead of schedule during the quarter. Almost all of the outstanding Stage 2 site construction work (electrical substation) had been completed by mid-March 2020, when site work was suspended due to COVID-19 restrictions (movement control order) imposed by the Malaysian government. The minor remaining work on the substation consists of internal fit out (most fit out has been completed), sewage and drainage work, and is planned for completion once restrictions are lifted. No work additional to Stage 2 is currently planned

Handover of the substation to Altech for final inspection will be after the completion of the outstanding work, at which time any punch list items will be identified. The local electricity service provider TNB (Tenaga Nasional Berhad) project team will then perform its inspection, ahead of switchgear installation, which is planned in parallel to the balance of HPA plant construction to ensure that electricity supply is available well in advance of plant commissioning.

The HPA site is fully fenced and has 24-hour security (both at the industrial complex entrance and at the plant site), as the movement of security personnel is exempt from the Malaysian government COVID-19 restrictions. It is expected that site work can re-commence easily when the current restrictions are lifted.



Construction progress can be viewed at
<https://www.youtube.com/watch?v=xWJYMHXLK0Q>

European Initiatives

Various European based initiatives have commenced to support the Company's objective of closing the balance of finance for its Malaysian high purity alumina (HPA) project. A key step includes a capital raise by Frankfurt Stock Exchange listed Altech Advanced Materials AG (AAM) of ~€69.4 million and the exercise of its option to acquire up to a 49% direct interest in Altech's HPA project for US\$100 million.

Mr Uwe Ahrens, who is a member of the AAM management board and the alternate director for Altech non-executive director Tunku Yaacob Khyra, commenced his posting to Germany in January 2020. Mr Ahrens is a German national who has resided in Malaysia for in excess of 20-years but has retained a strong business network in Germany. He is also a senior member of the management team of the Melewar group, a major shareholder of Altech.

In the second half of the quarter the COVID-19 pandemic began to impact global financial markets and economic activity generally. Altech however continued with its various European initiatives on the basis that governments, but particularly those in Europe, are likely to make available significant (likely unprecedented) economic stimulus once stability returns to financial markets and the global economy. Continuing with various European based activities is aimed at best positioning the Company for this situation. The activities include:

1. Altech Advance Materials AG Capital Increase: AAM has advised Altech that it remains on track for prospectus approval from BaFin (German Federal Financial Supervisory Authority) during April 2020. The first part of AAM's proposed ~€69.4 million capital increase is a rights offer to existing shareholders, which is planned to commence following prospectus approval - but timing may be altered in light of the pre-vailing COVID-19 situation. AAM continues to work with the Swiss international Investment Bank that has been appointed as Placement Agent in relation to the issuance of equity or other equity instruments (securities) by AAM via private placement. The private placement remains scheduled to follow the close of its rights offer.

2. Increased engagement with emerging participants in the burgeoning European lithium-ion battery sector. An objective of increasing the promotion of Altech's HPA project to emerging lithium-ion battery industry participants in Europe is to link with one or more European based 4N HPA end-users that appreciate the advantage of a current commitment to accepting future volumes of the Company's 4N HPA product at pre-agreed or other transparent pricing, and/or directly partnering for the development of Altech's HPA project. Although face-to-face meetings were limited by the COVID-19 situation towards the end of the quarter, teleconference and internet facilitated meetings continued and some important initial progress was made.

3. Independent Assessment of Altech's HPA project green credentials: As announced on 18 March 2020, AAM has appointed the Centre of International Climate and Environmental Research (CICERO) associated with the University of Oslo (Norway), to complete an independent determination of Altech's HPA project's green credentials. At quarter-end the work was ongoing, and is important because a positive determination would likely broaden the range of investors available to the project, in particular "green" funds and lenders.

4. Liaison with various research bodies: Engagement with the internationally renowned Fraunhofer Society for advancement of applied research about HPA product attributes and various test work commenced during the quarter.



Mezzanine Debt Update

Altech continues to work with its preferred mezzanine lender Macquarie Bank (Macquarie) to secure a US\$90 million mezzanine loan facility. An update meeting was held with Macquarie in London towards the end of January 2020, where the Macquarie team reaffirmed its interest to provide the facility – especially given the recent increased profile of planned lithium-ion battery plant construction in Europe, and a stated industry preference for securing long-term battery materials supply.

Finalising a facility remains subject to Macquarie satisfying all of its due diligence, various internal approvals and inter-creditor arrangements with senior lender KfW IPEX-Bank. Macquarie has progressed discussions with KfW IPEX-Bank and its legal counsel (Freshfields), regarding access to the previous legal due diligence work and updates to this work.

Whilst Altech has a ten-year offtake sales arrangement with Mitsubishi Corporation's Australian subsidiary, Mitsubishi Australia Ltd (Mitsubishi), Macquarie stressed to Altech the importance of it selling a proportion of its planned HPA production to an end user at fixed product prices to demonstrate some pricing transparency in an otherwise opaque market.

The posting of Altech alternate director Mr Uwe Ahrens to Germany (refer ASX Announcement 27 February 2020) is already starting to deliver increased engagement with emerging participants in the burgeoning European lithium-ion battery sector. Response to the promotion of Altech's HPA project and its 99.99% (4N) HPA product has been positive. The Company's objective is to link with one or more HPA end-users that appreciate the advantage of a current commitment to accept future volumes of its 4N HPA product at pre-agreed or other transparent pricing, and/or to directly partner with Altech for the development of its HPA project.

Controlled Placement Agreement as standby facility

The Company entered into a Controlled Placement Agreement (CPA) with Acuity Capital during the quarter. The CPA provides Altech with up to \$10 million of standby equity capital for the period to 31 January 2023.

Important features of the CPA include:

- There are no requirements upon Altech to utilise the CPA.
- If Altech chooses to utilise the CPA, it retains full control of all aspects of the placement process, having sole discretion as to if and when the CPA is utilised, the quantum of shares issued, the minimum issue price of shares ("floor price") and the timing of any issue.
- Altech retains full flexibility to use all other methods or arrangements to raise capital whilst the CPA is in place.
- Altech may terminate the CPA at any time, without cost or penalty.

As collateral for the CPA, Altech placed 40 million fully paid ordinary shares to Acuity Capital from its LR 7.1 capacity (Collateral Shares). When the CPA expires, or if it is cancelled by Altech, the Collateral Shares may be bought back by Altech for nil consideration (subject to shareholder approval).



4N HPA Application in Solid State Lithium Ion Batteries

In February, the Company provided information regarding the possible use of high purity alumina (HPA) in the manufacture of a likely next generation of lithium-ion battery (LiB) – the solid state LiB. The Company has been frequently asked if 4N HPA will be used in future solid state lithium-ion batteries where there will be no ceramic coated separators.

As an internal research project, Altech has reviewed and investigated more than one hundred research journal articles citing the use of high purity alumina in the development of solid state lithium-ion batteries. Based on this extensive research, Altech believes that 4N HPA will continue to be a key ingredient of future commercialised solid state lithium-ion batteries. Similarly, the amount of 4N HPA used is also likely to be higher than the amount used in the current ceramic coated separators.

Conventional lithium-ion battery

Lithium-ion is arguably the most advanced battery technology available today and since its initial commercialisation in 1991, the lithium-ion battery has helped facilitate the prolific growth of a vast range of portable electronic devices, electric vehicles and renewable energy storage options. LiB's are increasingly indispensable for our comfortable living today.

A conventional LiB cell consists of two solid electrodes (anode and cathode) that are separated by a pool of liquid electrolyte and a polymer separator sheet. The electrolyte provides the pathway via which lithium ions travel from anode to cathode (and vice-versa) during battery discharge and recharge. However, the liquid electrolyte is the LiB's "Achilles' heel", as this organic substance is highly corrosive and highly combustible and has a finite operating temperature. Although low-risk, LiB's are susceptible to intense flammability (fire and/or explosion) and corrosion should battery integrity be compromised by, for example, overcharging, short-circuit, overheating or mechanical abuse (e.g. bent, cut, crushed etc.).

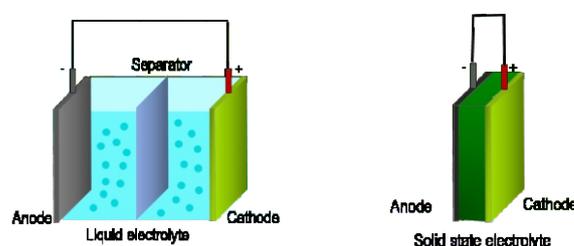
Also, an inherent challenge of using lithium within a battery is the propensity for dendrites, or branch-like growths of lithium metal, to occur when lithium ions collect in localised areas on the electrode surface, usually the anode. During the charge cycle, lithium ions move from cathode to anode and distribute unevenly on the anode surface. With each subsequent charge cycle, ions find the path of least resistance, causing them to collect in localised areas that protrude from the anode surface.

This reduces battery life (because of a reduced number of active lithium ions), but is also a significant safety concern as the protrusions can grow long enough to span the distance between the electrodes, causing an internal electrical short circuit and resulting in battery failure. Furthermore, short-circuiting often causes localised heating and, because of the liquid electrolyte's low thermal stability, the battery can rapidly heat and a thermal runaway can result.

Solid State lithium-ion battery

Alternatively, a future solid-state LiB has a non-liquid "solid state" electrolyte which appreciably improves battery safety and allows for significantly higher battery operating temperatures, plus the propensity for dendrite grown across the electrolyte is reduced. However, solid-state LiB's have their own challenges, most prominent is slower ion diffusion during battery discharge and re-charge, as the lithium ions must travel through the solid state electrolyte, as compared to a liquid.

Figure below – Conventional lithium-ion battery (left) compared to a solid state lithium-ion battery (right)



Green Credentials of Altech HPA Process

The Company has increasingly been requested by potential institutional investors and investment banks, especially in Europe, if it can demonstrate the green credentials of its disruptive kaolin-alumina high purity alumina (HPA) production process. The current industry standard of producing HPA is the “alkoxide process” (bauxite – refinery – smelter – alkoxide), whereby high grade aluminium metal is used as a feedstock.

In response to these requests, the Company has undertaken a detailed “mine to gate” study and compared the greenhouse gas emissions and energy consumption from the two HPA production methods. The results of the study are that Altech’s single step kaolin-alumina HPA production process will release 46% less greenhouse gas per tonne of HPA compared to the alkoxide process.

Altech’s process will have a comparative carbon footprint of 6.6 tonne CO₂ per tonne of HPA versus 12.3 tonne CO₂ per tonne of HPA for the alkoxide production method. In addition, Altech’s HPA production process will deliver a 41% reduction of energy consumption per tonne of HPA with estimated energy consumption of 45 GJ per tonne of HPA, versus 77 GJ per tonne of HPA for the conventional bauxite – refinery – smelter – alkoxide HPA process.

The results of the study are unsurprising to Altech, as the current industry standard of producing HPA is to re-process high grade aluminium metal which involves dissolving the metal in alcohol, hydrolysing, then calcining back to alumina (see figure). This alkoxide process is highly energy intensive as the aluminium metal that is used as feedstock is produced via the Bayer refining process where bauxite is mined then initially processed into smelter grade alumina. The smelter grade alumina is then fed to an energy-intensive aluminium refinery to produce aluminium metal ingots or powder. Current HPA producers cannot use smelter grade alumina to produce HPA due to the sodium impurities that remain from the Bayer process and are driven downstream in the production process to purchase high grade aluminium metal as feedstock. The production of aluminium metal consumes significant amounts of energy – and is high in greenhouse gas emissions.

Altech’s direct process involves the extraction of high purity alumina from a kaolin (alumina silicate) ore feedstock, rather than from expensive aluminium metal, using a hydrochloric acid process. The first advantage of Altech’s process is that the kaolin feedstock is extremely “clean” with very low levels of iron

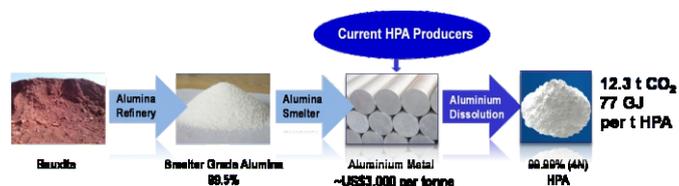
compared to bauxite which generates large amounts of red mud waste. The second advantage is that nearly 100% of the hydrochloric acid used in Altech’s chemical process is recycled and reused in the process plant. The third advantage is that all heating in the plant uses clean natural gas fuel.

Finally, the process plant in Malaysia is designed to international environmental standards and to satisfy the equator principles for lenders. Since the senior debt funding will be provided by KfW IPEX bank, under export credit cover (ECA), the emission standards from the process follow very stringent international standards.

For all of these reasons Altech’s HPA production process is considered to be highly disruptive to established HPA producers and estimated at one third to half the cost of the conventional production process.

A comparison of the HPA production processes is illustrated below.

Current industry standard to produce HPA (Alkoxide Process)



Altech’s direct HPA production process



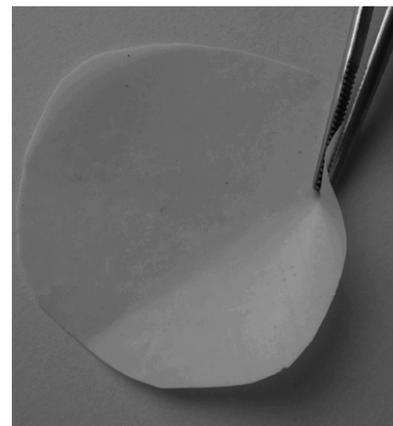
The challenge of reduced ion conductivity in a solid state LiB is addressed by using a different material for the battery anode. The graphite anode that is used in a conventional LiB can be replaced by a lithium metal anode in a solid state LiB, as lithium metal can store 10 times more energy than graphite. Consequently, the slower ion flow between anode and cathode in the solid state LiB is more than off-set by the sheer amount of energy transferred compared to a conventional LiB. This increased energy transfer results in a much higher battery operating temperature, a temperature that far exceeds what would be safe if a liquid electrolyte were used.

Replacing the liquid electrolyte with a solid one has the advantage of physically suppressing dendrite growth. Solid electrolytes also improve battery safety due to their superior mechanical and thermal stability when compared to liquid electrolytes. The ion conductivity of solid electrolytes is thermally dependent and increases with temperature, meaning they are well suited for high temperature applications. However, conductivity also decreases with temperature meaning the energy density of solid-state batteries decreases significantly in cold conditions, something that needs to be managed.

Among the different types of solid-state electrolytes, polyethylene oxide (PEO) solid electrolytes have been the most extensively studied. PEO solid electrolytes are blends of a lithium salt and a high molecular weight polymer containing Li⁺-coordinating groups. Numerous research papers have been published and numerous patents have been granted. A recognised limitation of PEO solid electrolytes is the low ion conductivity at lower temperatures due to the crystallisation of the polymer. However, it has been demonstrated that by adding 4N high purity alumina (HPA) to the polymer as a filler or active material, the crystallisation temperature is lowered and the polymer remains amorphous, enabling it to maintain its ion conductivities at lower temperatures. The typical addition of 4N HPA to the PEO is around 10 to 15% w/w (weight for weight), and in addition to maintaining polymer conductivity the HPA particles: increase mechanical strength; improve cycling performance and reduces crystallinity of the polymer host.

Based on its research in the field, Altech believes that 4N HPA will continue to be a key ingredient of future commercialised solid state lithium-ion battery. The demand for 4N HPA will likely increase further with the future development of solid state lithium-ion battery technology.

Figure Typical PEO-based, HPA-added, nanocomposite membrane (Armand et al, 2011)



First step taken to access Green Bond Market

During the quarter, the process of connecting the sustainability profile of Altech's high purity alumina (HPA) project in Johor, Malaysia with potential green investor funds commenced. As a first step, Altech Advanced Materials AG (AAM) engaged the Centre of International Climate and Environmental Research (CICERO), associated with the University of Oslo, to conduct an external review of the HPA projects green credentials. CICERO is one of the leading providers of second opinions on green bonds, assisting the global green bond market to grow and develop in new sectors and regions.

Altech is working closely with the international Swiss investment bank that was recently mandated by AAM as placement agent. The Swiss bank has established a green bond framework which the Company is working towards for accreditation. The opinion of the assurance provider (CICERO) will be critical for the Green bond market. CICERO has commenced its project evaluation, it has accessed the Company's project data room and conducted an initial detailed follow-up information verification call. A draft report is expected to be received during the next quarter.

AAM AG re-commenced capital increase process

Altech Advanced Materials AG (AAM) re-commenced its capital increase process during the quarter, with approval from its shareholders received, in Heidelberg, Germany on 12 March 2020. The capital increase that was approved is comparable to the process that was previously approved in 2019. In addition to the capital increase, shareholders also approved: (a) an additional authorised capital increase of €10,000,000 plus a conditional capital increase of €785,000, each of which may be utilised at the discretion of the AAM supervisory board for a period of up to approximately 5 years (until 1 March 2025) to raise additional new funds; (b) the move of AAM's registration of office from the jurisdiction of Mannheim to Frankfurt, which has more exposure to public company shareholder matters; and c) the election of Mr Wilko Stark to the AAM Supervisory Board. At quarter end AAM was awaiting approval of its prospectus by BaFin (German Federal Financial Supervisory Authority) and approval is expected during April 2020.

Experienced German Auto Executive appointed to AAM Supervisory Board

In mid-March 2020, Altech Advanced Materials AG (AAM) announced the appointment of Mr Wilko Stark to its supervisory board. Mr Stark is a highly experienced automotive executive and has held a number of significant roles in the German automotive industry. Most recently Mr Stark was a member of the divisional board of Mercedes-Benz Cars, Germany, prior to which he was chief executive officer of Daimler's CASE (Connectivity, Autonomous Driving, Shared mobility, Electromobility) activities, and group leader of battery electric vehicles. Mr Stark has also held the position of vice-president corporate strategy and product planning for Mercedes-Benz Cars, where he was responsible for all vehicle and engine projects. Before joining Daimler AG, Mr Stark was with the Volkswagen Group for five years as vice-president product planning and vice-president products for SEAT S.A. (wholly owned by Volkswagen), in Barcelona, Spain. Mr Stark commenced his career with the Boston Consulting Group, where he spent eight years.

COVID-19 Pandemic

In relation to the global COVID-19 pandemic, in addition to supporting the welfare of all of its employees, the Company is only proceeding with discretionary expenditure that will assist to position it to continue to progress its HPA project once financial markets and the global economy stabilise. It is likely that most able governments, but particularly those in Europe, will make available significant (likely unprecedented) economic stimulus once stability returns to financial markets and the global economy, the Company is therefore continuing with its European based activities to best position it for this situation. Legal due diligence being conducted as part of the Macquarie mezzanine debt process has been put on hold, as the legal firms in the three countries involved have been restricted in their respective work. However, this work is expected to resume once the COVID-19 situation stabilises.

Altech has not been advised by either German government owned KfW IPEX-Bank, or by Macquarie of any changes to their respective support for the Company's HPA project.



Mr Wilko Stark

HPA Critical to LEDs and Lithium-ion Batteries

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 displacing traditional incandescent lighting. Without HPA and synthetic sapphire, this reduction of CO₂ would not be possible within the currently estimated timeframe.

Increasingly HPA is used in lithium-ion battery manufacturing as both an important coating for separators and as a coating directly onto battery 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 electric vehicle and renewable energy sectors. HPA is positioned to be a critical ingredient in growing the renewable energy sector.



Fraunhofer Institute, Dresden, Germany



HPA Test work program with Fraunhofer institute

Altech has commissioned the Fraunhofer Institute for Ceramic Technologies and Systems (IKTS) of Dresden, Germany to undertake various HPA battery product applications test work. The institute specialises in lithium-ion battery research, but more specifically battery separator technology. Altech's commissioned work is focussed on assessing the contamination that impurities from lower quality alumina (sub-4N) have on battery electrolyte, a cause for lithium-ion battery thermal runaway, efficiency and life cycle reduction.

As an independent German based institute, the results of the HPA test work by IKTS will be highly regarded by German and other European industry value chain participants in the lithium-ion battery and electric mobility sectors. The Fraunhofer-Gesellschaft is the largest organisation for applied research in Europe and conducts research under contract for industry. A total of 72 institutes and research facilities work together under the umbrella of the Fraunhofer-Gesellschaft, which has an annual operating budget of ~€2.6 billion. Results from the commissioned works which have been recently completed, and a detailed report, are expected shortly.

AAM AG executes placement agent agreement with Swiss bank

During the quarter, Altech Advanced Materials AG (AAM) announced that it had executed a Placement Agent Agreement with a Swiss international investment bank. AAM commenced working with the bank during the last quarter to reach agreement on the scope of the engagement, conduct due diligence and satisfy the bank's KYC (know your client) requirements. The engagement is for the bank to act as placement agent in relation to the issuance of equity or other equity instruments (securities) by AAM via private placement to external investors, which will be scheduled to follow the re-introduction of a rights offer to existing AAM shareholders that is scheduled for April 2020. In addition, the bank is mandated to assist AAM with the structuring of any transactions, including the preparation of a timetable and the determination of the appropriate transaction structure. The bank is well advanced in compiling an initial list of potential investors and approaching them with the project financing opportunity, in preparation for road-show presentations by AAM and Altech – the timing of which needs to be finalised given the current COVID-19 travel and social distancing restrictions.



Altech Chemicals
Limited

QUARTERLY REPORT

March 2020

Company Snapshot

Altech Chemicals Limited (ASX:ATC) (FRA:A3Y)
ABN 45 125 301 206

FINANCIAL INFORMATION

(as at 31 March 2020)

Share Price:	\$0.042
Shares:	849.4m
Options:	Nil
Performance Rights:*	27.2m
Market Cap:	\$36m
Cash:	\$0.7m

DIRECTORS

Luke Atkins	Non-executive Chairman
Iggy Tan	Managing Director
Peter Bailey	Non-executive Director
Dan Tenardi	Non-executive Director
Tunku Yaacob Khya	Non-executive Director
Uwe Ahrens	Alternate Director

COMPANY SECRETARY/CFO

Shane Volk

HEAD OFFICE

Suite 8, 295 Rokeby Road,
Subiaco, Western Australia, 6008

T. +61 8 6168 1555

F. +61 8 6168 1551

E. info@altechchemicals.com

W. www.altechchemicals.com

*subject to vesting conditions



Schedule of Tenements

As per ASX Listing Rule 5.3.3, the Company held the following tenements (exploration and mining leases) as at 31 March 2020:

Tenement ID	Registered Holder	Location	Project	Grant Date	Interest end of quarter
E70/4718-I	Canning Coal Pty Ltd	WA Australia	Kerrigan	01/12/2015	100%
M70/1334	Altech Meckering Pty Ltd	WA Australia	Meckering	19/05/2016	100%

ABOUT ALTECH CHEMICALS LTD (ASX:ATC) (FRA:A3Y)

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 is a high-value, high margin and highly demanded product as it is the critical ingredient required for the production of synthetic sapphire. Synthetic sapphire is used in the manufacture of substrates for LED lights, semiconductor wafers used in the electronics industry, and scratch-resistant sapphire glass used for wristwatch faces, optical windows and smartphone components. Increasingly HPA is used by lithium-ion battery manufacturers as the coating on the battery's separator, which improves performance, longevity and safety of the battery. With global HPA demand approximately 19,000t (2018), it is estimated that this demand will grow at a compound annual growth rate (CAGR) of 30% (2018-2028); by 2028 HPA market demand will be approximately 272,000t, driven by the increasing adoption of LEDs worldwide as well as the demand for HPA by lithium-ion battery manufacturers to serve the surging electric vehicle market.

Forward-looking Statements

This announcement contains forward-looking statements which are identified by words such as 'anticipates', 'forecasts', 'may', 'will', 'could', 'believes', 'estimates', 'targets', 'expects', 'plan' or 'intends' and other similar words that involve risks and uncertainties. Indications of, and guidelines or outlook on, future earnings, distributions or financial position or performance and targets, estimates and assumptions in respect of production, prices, operating costs, results, capital expenditures, reserves and resources are also forward-looking statements. These statements are based on an assessment of present economic and operating conditions, and on a number of assumptions and estimates regarding future events and actions that, while considered reasonable as at the date of this announcement and are expected to take place, are inherently subject to significant technical, business, economic, competitive, political and social uncertainties and contingencies. Such forward-looking statements are not guarantees of future performance and involve known and unknown risks, uncertainties, assumptions and other important factors, many of which are beyond the control of the Company, the directors and management. We cannot and do not give any assurance that the results, performance or achievements expressed or implied by the forward-looking statements contained in this announcement will actually occur and readers are cautioned not to place undue reliance on these forward-looking statements. These forward-looking statements are subject to various risk factors that could cause actual events or results to differ materially from the events or results estimated, expressed or anticipated in these statements.

Appendix 5B

Mining exploration entity or oil and gas exploration entity quarterly cash flow report

Name of entity

Altech Chemicals Ltd

ABN

45 125 301 206

Quarter ended ("current quarter")

March 2020

Consolidated statement of cash flows	Current quarter \$A'000	Year to date (9 months) \$A'000
1. Cash flows from operating activities		
1.1 Receipts from customers	-	-
1.2 Payments for		
(a) exploration & evaluation (if expensed)	-	-
(b) development	(142)	(1,067)
(c) production	-	-
(d) staff costs	(244)	(902)
(e) administration and corporate costs	(385)	(1,301)
1.3 Dividends received (see note 3)	-	-
1.4 Interest received	2	17
1.5 Interest and other costs of finance paid	-	-
1.6 Income taxes paid	-	-
1.7 Government grants and tax incentives	-	-
1.8 Other (provide details if material)	-	-
1.9 Net cash from / (used in) operating activities	(769)	(3,253)

2. Cash flows from investing activities		
2.1 Payments to acquire:		
(a) entities (29% interest in Altech Advanced Materials AG)	-	(821)
(b) tenements	-	-
(c) property, plant and equipment	-	(3)
(d) exploration & evaluation (if capitalised)	(67)	(181)
(e) investments	-	-
(f) HPA Plant (stage 1 & 2 construction payments)	(1,901)	(8,479)

Mining exploration entity or oil and gas exploration entity quarterly cash flow report

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (9 months) \$A'000
2.2	Proceeds from the disposal of:		
	(a) Entities	-	-
	(b) Tenements	-	-
	(c) property, plant and equipment	-	-
	(d) investments	-	-
	(e) other non-current assets	-	-
2.3	Cash flows from loans to other entities	-	-
2.4	Dividends received (see note 3)	-	-
2.5	Other (Sale of right to acquire up to 49% interest in HPA project)	-	815
	GST Refund (Malaysia) – land lease	272	272
2.6	Net cash from / (used in) investing activities	(1,696)	(8,397)
3.	Cash flows from financing activities		
3.1	Proceeds from issues of equity securities (excluding convertible debt securities)	2,846	6,627
3.2	Proceeds from issue of convertible debt securities	-	-
3.3	Proceeds from exercise of options	-	-
3.4	Transaction costs related to issues of equity securities or convertible debt securities	(88)	(150)
3.5	Proceeds from borrowings	-	-
3.6	Repayment of borrowings	-	-
3.7	Transaction costs related to loans and borrowings (Facility Fee: KfW IPEX-Bank)	(769)	(2,331)
3.8	Dividends paid	-	-
3.9	Other (provide details if material)	-	-
3.10	Net cash from / (used in) financing activities	1,989	4,146
4.	Net increase / (decrease) in cash and cash equivalents for the period	(476)	(7,505)
4.1	Cash and cash equivalents at beginning of period	1,239	8,267
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(769)	(3,253)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	(1,696)	(8,397)

Mining exploration entity or oil and gas exploration entity quarterly cash flow report

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (9 months) \$A'000
4.4	Net cash from / (used in) financing activities (item 3.10 above)	1,989	4,146
4.5	Effect of movement in exchange rates on cash held	-	-
4.6	Cash and cash equivalents at end of period	763	763

5.	Reconciliation of cash and cash equivalents at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	Current quarter \$A'000	Previous quarter \$A'000
5.1	Bank balances	733	1,209
5.2	Call deposits	30	30
5.3	Bank overdrafts	-	-
5.4	Other (provide details)		
5.5	Cash and cash equivalents at end of quarter (should equal item 4.6 above)	763	1,239

6. Payments to related parties of the entity and their associates

- 6.1 Aggregate amount of payments to related parties and their associates included in item 1
- 6.2 Aggregate amount of payments to related parties and their associates included in item 2

**Current quarter
\$A'000**

199

-

Note: if any amounts are shown in items 6.1 or 6.2, your quarterly activity report must include a description of, and an explanation for, such payments

Mining exploration entity or oil and gas exploration entity quarterly cash flow report

7. Financing facilities	Total facility amount at quarter end \$A'000	Amount drawn at quarter end \$A'000
<i>Note: the term "facility" includes all forms of financing arrangements available to the entity. Add notes as necessary for an understanding of the sources of finance available to the entity.</i>		
7.1 Loan facilities	-	-
7.2 Credit standby arrangements	-	-
7.3 Other (please specify)	-	-
7.4 Total financing facilities	-	-

7.5 Unused financing facilities available at quarter end	
7.6 Include in the box below a description of each facility above, including the lender, interest rate, maturity date and whether it is secured or unsecured. If any additional financing facilities have been entered into or are proposed to be entered into after quarter end, include a note providing details of those facilities as well.	

8. Estimated cash available for future operating activities	\$A'000
8.1 Net cash from / (used in) operating activities (Item 1.9)	(769)
8.2 Capitalised exploration & evaluation (Item 2.1(d))	(67)
8.3 Total relevant outgoings (Item 8.1 + Item 8.2)	(836)
8.4 Cash and cash equivalents at quarter end (Item 4.6)	763
8.5 Unused finance facilities available at quarter end (Item 7.5)	-
8.6 Total available funding (Item 8.4 + Item 8.5)	763
8.7 Estimated quarters of funding available (Item 8.6 divided by Item 8.3)	0.91

8.8 If Item 8.7 is less than 2 quarters, please provide answers to the following questions:

1. Does the entity expect that it will continue to have the current level of net operating cash flows for the time being and, if not, why not?

Answer: Yes

2. Has the entity taken any steps, or does it propose to take any steps, to raise further cash to fund its operations and, if so, what are those steps and how likely does it believe that they will be successful?

Answer: Yes – during the quarter the entity executed a Controlled Placement Agreement with Acuity Capital, and on 22 April 2020 the entity announced a Share Purchase Agreement which will provide up to \$900,000 per quarter to the Company. In addition the entity has sold a right to Frankfurt Stock Exchange listed Altech Advanced Materials AG (AAM), whereby it may acquire up to a 49% interest in Altech's high purity alumina (HPA) project for US\$100 million.

3. Does the entity expect to be able to continue its operations and to meet its business objectives and, if so, on what basis?

Answer: Yes – by applying funds from the Controlled Placement Agreement, the Share Purchase Agreement and via funds from the exercise of the right to acquire 49% of its HPA project.

Compliance statement

- 1 This statement has been prepared in accordance with accounting standards and policies which comply with Listing Rule 19.11A.
- 2 This statement gives a true and fair view of the matters disclosed.

29 April 2020

Date:

SHANE VOLK – Company Secretary

Authorised by:
(Name of body or officer authorising release – see note 4)

Notes

1. This quarterly cash flow report and the accompanying activity report provide a basis for informing the market about the entity's activities for the past quarter, how they have been financed and the effect this has had on its cash position. An entity that wishes to disclose additional information over and above the minimum required under the Listing Rules is encouraged to do so.
2. If this quarterly cash flow report has been prepared in accordance with Australian Accounting Standards, the definitions in, and provisions of, *AASB 6: Exploration for and Evaluation of Mineral Resources* and *AASB 107: Statement of Cash Flows* apply to this report. If this quarterly cash flow report has been prepared in accordance with other accounting standards agreed by ASX pursuant to Listing Rule 19.11A, the corresponding equivalent standards apply to this report.
3. Dividends received may be classified either as cash flows from operating activities or cash flows from investing activities, depending on the accounting policy of the entity.
4. If this report has been authorised for release to the market by your board of directors, you can insert here: "By the board". If it has been authorised for release to the market by a committee of your board of directors, you can insert here: "By the [name of board committee – eg Audit and Risk Committee]". If it has been authorised for release to the market by a disclosure committee, you can insert here: "By the Disclosure Committee".
5. If this report has been authorised for release to the market by your board of directors and you wish to hold yourself out as complying with recommendation 4.2 of the ASX Corporate Governance Council's *Corporate Governance Principles and Recommendations*, the board should have received a declaration from its CEO and CFO that, in their opinion, the financial records of the entity have been properly maintained, that this report complies with the appropriate accounting standards and gives a true and fair view of the cash flows of the entity, and that their opinion has been formed on the basis of a sound system of risk management and internal control which is operating effectively.