ASX ANNOUNCEMENT

29 September 2023

Micro Plant Delivers Critical 4N HPA Milestone

Assay confirms 4N (99.99%) HPA across an impressive 66 elements

- **Micro Plant achieves 4N (99.99%) purity High Purity Alumina (HPA) across 66 elements critical for the global battery and energy transition market.**
- **ChemX products on the pathway to deliver high purity materials to the global battery industry, the synthetic sapphire markets, LEDs, semi-conductor and optical lenses for testing and qualification, subject to suitable quantities of HPA being produced.**
- **ChemX's 100%-owned HiPurA® technology delivers key milestone within 12 months since commissioning HPA facility.**
- **The HiPurA® process is modular, scalable and independent of direct mine production, which enables ChemX to locate key future production facilities close to customers in a just-in-time customised approach.**

ChemX Materials Limited (ASX:CMX) (ChemX or the Company), an Australian based high purity critical materials developer, is delighted to announce recent results from its High Purity Alumina (HPA) Micro Plant operations, located in Perth, Western Australia.

ChemX's 100%-owned HiPurA® chemical feedstock process has delivered an outstanding 4N (99.99%) HPA result across an impressive 66 element spectrum. The Company is now working to ensure repeatability of this result through continued plant optimisation as it seeks to scale up the process to pilot plant scale.

Importantly, achieving a 4N product involves a sample quality with impurities of less than 100 parts per million and this quality is what is required for testing and qualification to commence for the global battery separator market.

In late CY2022, ChemX commissioned its Integrated HPA Facility with the goal of advancing the scale up of the HiPurA® HPA flowsheet from laboratory scale to continuous operation.

Chief Executive Officer, Peter Lee commented:

"*The Company is extremely proud to have achieved an outstanding result from our Micro Plant, with detailed logged data from feedstock delivery through each stage of the process being achieved.*

"I'd like to acknowledge our best-in-class team who have succeeded in calibration of the novel HiPurA® process with highly effective removal of deleterious elements.

"This is a proud day for CMX shareholders and the team," Mr Lee said.

"Today's break through validates the disruptive nature of the HiPurA® process and ChemX views that the ability to achieve bespoke high purity (4N) outcomes in a locally-based, scalable, modular format may be a game-changer for gigafactory feedstock management".

"Importantly, data obtained during the optimisation of the Micro Plant will be included in the current Pilot Plant (design) which will produce sufficient sample volumes for global customer qualification," Mr Lee said.

Next steps:

The World Intellectual Property Organisation (WIPO) issued an International Preliminary Report on Patentability for the HiPurA® process, finding that claims 1-26 complied with requirements for novelty, inventive step and industrial applicability. The International Patent Application process is ongoing.

The Company is moving forward to make further strategic investments in high purity analytical equipment and necessary resources to speed process iteration and optimisation. Process control data logged during production will work to ensure robust repeatability.

The Company has achieved solid results which satisfy known commercial specifications for HPA, but has been driving the HiPurA® process beyond this distinction to instead achieve an outstanding result across an impressive 66 element spectrum, validating the exceptional efficacy of the HiPurA® process.

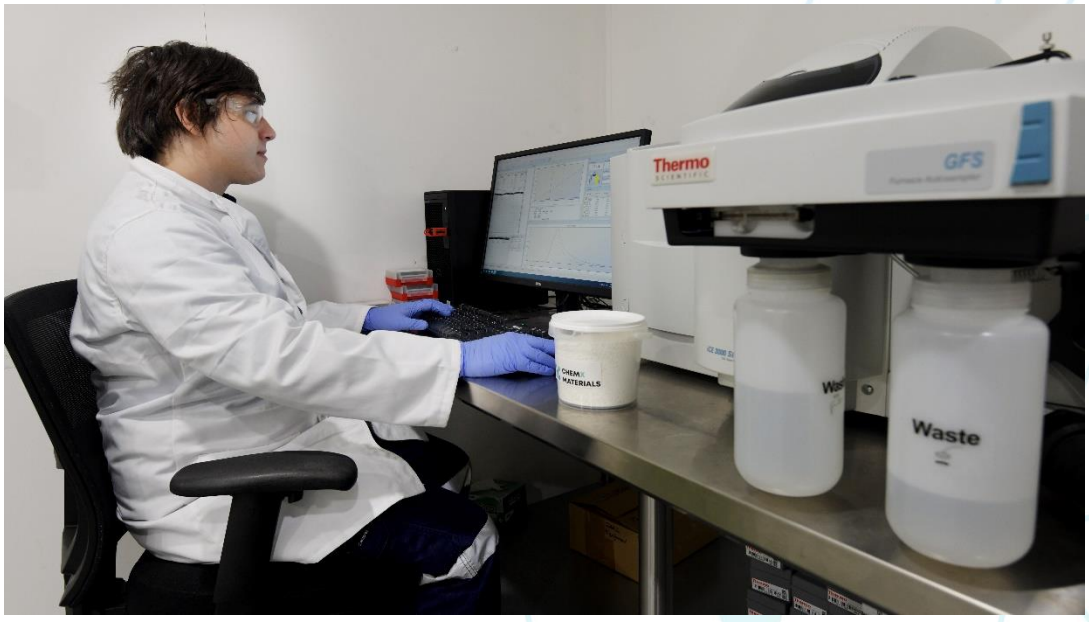

Figure 1. ChemX Chemist with Atomic Absorption Spectrometer (AAS)

Table 1. Results of HPA Analysis

Element	Sample A
	Conc. (ppm)
Ca	2.7
Cr	0.2
Cu	0.3
Fe	6.1
Ga	2.4
K	1.7
Mg	1.2
Mn	0.1
Na	1.9
Ni	0.4
Si	9.9
Sn	0.6
Ti	0.2
Zn	2.1
TOTAL, Major Elements (ppm)	**29.8**
B	26.9
S	22.0
P	9.0
All others	0.7
TOTAL (ppm)	**88.4**
% Purity	**99.99**

Notes:

1) 'Major Elements' listed represent the 14 elements most commonly reported within commercial HPA specifications.
2) Analysis conducted by LabWest Minerals Analysis Pty Ltd. (NATA accredited Laboratory)
2) Analysis Method – Microwave Digest, HF/Multiacid, 66 Elements including REE's by ICP-MS/OES.
3) Complete analysis provided in Appendix A

About the HiPurA® 100% owned process

CMX's HiPurA® process is a disruptive flowsheet which converts aluminous chemical feedstocks through selective refining to HPA. Ultimately, CMX aims to achieve the delivery of 4N high grade and potentially 5N (99.999%) HPA products for the electric vehicle battery separator and synthetic sapphire markets, LEDs, semi-conductor and optical lenses.

The HiPurA® process is modular, scalable and independent of direct mine production, which enables ChemX to locate key future production facilities close to customers in a just-in-time customised approach.

This Announcement has been authorised for release by the Board.

ENDS

For enquiries:

Peter Lee
Chief Executive Officer
ChemX Materials Ltd
Peter@chemxmaterials.com.au
+61 448 874 084

Stephen Strubel
Executive Director and Company Secretary
ChemX Materials Ltd
Stephen@chemxmaterials.com.au
+61 404 400 785

COMPETENT PERSON STATEMENT – Metallurgy

Mr Steven Hoban is a Principal Metallurgist with a Bachelor of Mineral Science degree and Member of the AusIMM institute with more than 25 years of experience. Steven's expertise lies across many fields in the minerals industry with a key role in the development, design and interpretation of laboratory testwork with significant recent experience in high purity applications such as silica, lithium and alumina. Mr Hoban has sufficient experience relevant to the type of processing and analysis under consideration and the activity undertaken to qualify as a Competent Person as defined by the AusIMM.

Mr Hoban deems these results as true and correct at the time of reporting and representative of the product produced from the HiPurA® process pilot plant by ChemX Materials.

Mr Hoban consents to the inclusion in this announcement of the matters based upon the information in the form and context in which it appears.

Appendix A

Complete Elemental HPA Analysis

Element	Sample A Conc. (ppm)	Element.	Sample A Conc. (ppm)
Ag	0.002	Nb	0.01
As	<0.01	Nd	0.003
Au	<0.001	Ni	0.4
B	26.7	P	9.0
Ba	0.03	Pb	0.1
Be	0.002	Pd	<0.001
Bi	0.001	Pr	0.001
Ca	2.7	Pt	<0.001
Cd	0.002	Rb	0.001
Ce	0.004	Re	0.002
Co	0.01	S	22.0
Cr	0.2	Sb	0.02
Cs	<0.001	Sc	<0.001
Cu	0.3	Se	<0.02
Dy	<0.001	Si	9.9
Er	0.001	Sm	0.001
Eu	<0.001	Sn	0.6
Fe	6.1	Sr	0.02
Ga	2.4	Ta	0.01
Gd	<0.001	Tb	<0.001
Ge	0.02	Te	0.003
Hf	0.01	Th	0.004
Hg	<0.001	Ti	0.2
Ho	<0.001	Tl	<0.001
I	0.02	Tm	<0.001
In	<0.001	U	0.01
K	1.7	V	0.5
La	0.004	W	<0.01
Li	0.04	Y	0.01
Lu	<0.001	Yb	<0.001
Mg	1.2	Zn	2.1
Mn	0.1	Zr	0.1
Mo	0.03	**TOTAL (ppm)**	**88.4**
Na	1.9	**Purity (%)**	**99.99**

Reference: LabWest Analysis Report No. ALW008153

ChemX is an advanced materials company focused on providing high purity critical materials for the battery industry. The Company's vision is to become a leading supplier of sustainable and ethically sourced critical materials to support the global energy transition.

ChemX is applying its high purity expertise to advance its Manganese project located on the Eyre Peninsula in South Australia. Metallurgical testwork has indicated the manganese ore is amendable to upgrade through beneficiation and being processed into a high purity manganese sulphate to supply the Lithium-ion battery industry.

Developed in-house, ChemX's HiPurA® process is capable of producing high purity alumina (HPA) and high purity aluminium cathode precursor salts for lithium-ion batteries. Initial testwork has indicated that the process is low costs and low in energy consumptions, compared to alternative methods. A key competitive advantage is that the HiPurA® process is modular, scalable and is not tied to mine production, with the feedstock being a widely available chemical.

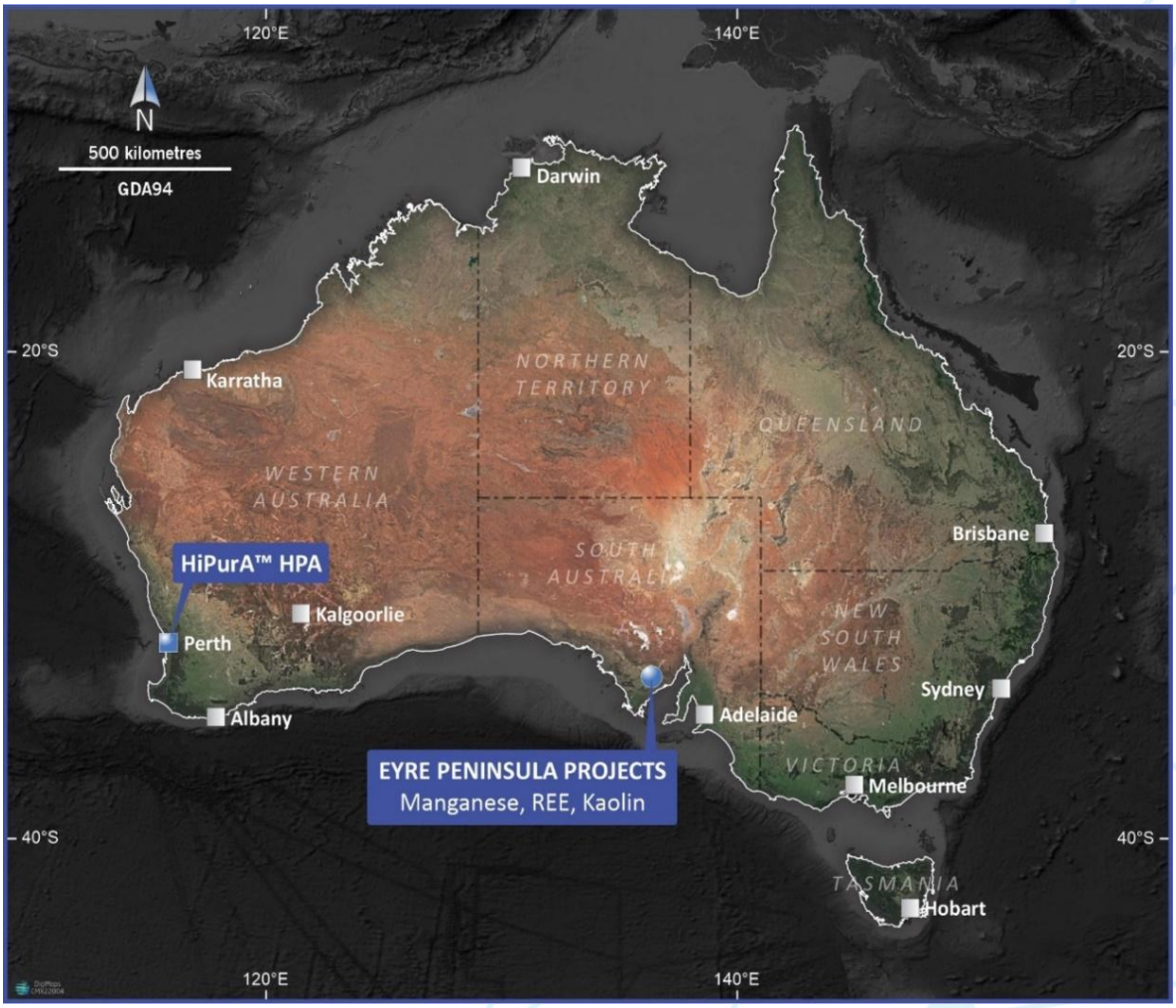

Figure 1: ChemX Project Locations

www.chemxmaterials.com.au LinkedIn