ASX/Media Announcement
1 May 2018

Provisional patent lodged for production of silica chemicals from silicate minerals

- **S-Max™ is a novel hydrometallurgical process that can produce marketable quality amorphous silicas from a range of silicate minerals including lithium mica minerals**
- **S-Max™ is expected to materially enhance the economics of the Phase 1 Plant Project as it is integrable with the L-Max® impurity removal stages but is a standalone invention in its own right**
- **S-Max™ provides high leach extractions on mica minerals at reduced consumable consumption rates**
- **S-Max™ purification stages can produce a range of marketable silica products at low cost versus existing industry processes**

Lepidico Ltd (ASX:LPD) ("Lepidico" or "Company") is pleased to announce that it has lodged a provisional patent application for a hydrometallurgical process, S-Max™, developed in close collaboration with Strategic Metallurgy, inventor of the L-Max® process. S-Max™ produces an amorphous silica from concentrates sourced from a range of mica minerals, including lithium micas. The purified amorphous silica may be sold directly or used as a feed to produce a variety of other marketable silica products. The S-Max™ technology will be held in a wholly owned Lepidico subsidiary: Silica Technology Pty Ltd.

S-Max™ employs three stages; grinding, sulphuric acid leach regimes at atmospheric pressure, followed by differential classification and flotation streams. All equipment is industry standard and common use reagents are employed. Occupational health and safety requirements will be straightforward.

Importantly, S-Max™ can be integrated with Lepidico's proprietary L-Max® process, employed for the production of lithium carbonate and a suite of other by-products, including sulphate of potash (SOP) fertiliser, sodium sulphate, and potentially caesium/rubidium and tantalum compounds. When lithium bearing mica concentrates are treated, the S-Max™ leach liquor can feed directly into the first impurity removal stage of the L-Max® process. Furthermore, the leach liquor from non-lithium bearing micas including muscovite and biotite may be treated to produce valuable by-products including sulphate of potash (SOP) fertiliser. When combined with L-Max® silica production costs are expected to be extremely competitive.

Lepidico's Managing Director, Joe Walsh said, "S-Max™ has been more than a year in the making and is a complementary process to Lepidico's proprietary L-Max® technology. S-Max™ is being integrated into the engineering design for the Phase 1 Plant Project in Sudbury and is expected to lead to reduced consumable consumption rates, higher recoveries of lithium and potassium, and the production of a broader suite of silica products than L-Max®. S-Max™ is expected to materially enhance the economics of the Phase 1 Plant Project. It builds on the considerable experience Lepidico has gained in the silica space over the past few years and strengthens the company's technology base".

Background

Prior to the advent of S-Max™ Lepidico planned to produce either anhydrous or liquid form sodium silicate from the Phase 1 Plant via a caustic leach process. While these products remain as options, the primary S-Max™ product is amorphous silica, a potentially higher value silica product commonly used as a filler in the rubber industry, in tyre compounds, as free-flow and anti-caking agents in powder materials, and as liquid carriers, particularly in the manufacture of animal feed and agrochemicals; other uses are found in toothpaste additives, paints, silicon rubber, insulation material, liquid systems in coatings, adhesives, printing inks, plastisol car undercoats, cosmetics and in semiconductor circuits to isolate different conducting regions.

Furthermore, due to its mechanical resistance, high dielectric strength and selectivity for chemical modification, amorphous silica has also become a key material in microelectronics and chromatography. Its unique properties make amorphous silica essential for a broad range of biophysics applications, including: electronic chips, optical fibres, and telescope glasses which are manufacture on amorphous silica. Furthermore, molecular biologists employ amorphous silica in resins and optical beads to study biomacromolecules and in many other nanotechnology applications.

Further Information
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About Lepidico Ltd

Lepidico Ltd is an ASX-listed Company focused on exploration, development and production of lithium. Lepidico owns the technology to a metallurgical process that has successfully produced lithium carbonate from non-conventional sources, specifically lithium-rich mica minerals including lepidolite and zinnwaldite. The L-Max® Process has the potential to complement the lithium market by adding low-cost lithium supply from alternative sources. The Company is currently conducting a Feasibility Study for a Phase 1 L-Max® plant, targeting production for late 2019. Three potential sources of feed to the planned Phase 1 Plant are being evaluated. More recently Lepidico has added S-Max™ to its technology base, which can produce marketable quality amorphous silicas at low cost versus existing industry processes.

Lepidico's current exploration interests include an ore access agreement with Grupo Mota over the Alvarrões Lepidolite Mine in Portugal where it has identified a JORC Code compliant Inferred Mineral Resource estimate of 1.5 Mt grading 1.1% Li_2O (see ASX Announcement of 7 December 2017); and farm-in agreements with both Maximus Resources (ASX:MXR) and Pioneer Resources (ASX:PIO) over the Moriarty Lithium Project and PEG 9 lepidolite prospect respectively, both in Western Australia. Lepidico has also entered into a Letter of Intent with TSX listed Avalon Advanced Materials Inc. for planned lithium mica concentrate supply from its Separation Rapids Project in Ontario, Canada.

Lepidico has a strategic alliance with Galaxy Resources Limited (ASX: GXY, which holds a 12% interest in LPD) based on a shared vision for the significant global opportunity provided by the commercialisation of L-Max®. With its strong industry contacts and relationships in the lithium industry, Galaxy will assist Lepidico with future business and growth opportunities, that include the evaluation of potential synergies with its Mt Cattlin Mine and James Bay Project.