

January 21, 2015

### NEI Corporation Expands Product Line of Solid Electrolyte Materials

Somerset, New Jersey, USA: – **NEI Corporation**, a leading developer and manufacturer of specialty cathode, anode, and electrolyte materials for Lithium-ion batteries, announced today that they are expanding their offering of patent-pending, solid electrolyte materials. Over the past year, NEI has supplied multi-kilogram quantities of their newly developed solid electrolyte powder, **NANOMYTE® SSE-10** ( $\text{Li}_{10}\text{SnP}_2\text{S}_{12}$  or LSPS). SSE-10, which has now been used by a multitude of scientists and engineers for developing and prototyping “all solid” Lithium batteries, is now being made available in the form of a slurry or dispersion that can be cast into flexible tapes. **NANOMYTE® SSE-10D** is composed of surface-modified LSPS particles dispersed in organic solvent, which can be removed after the tape or film is formed.

Lithium Tin Phosphorous Sulfide (LSPS) belongs to a family of “superionic” solids, which have demonstrated high conductivity for lithium ions at room temperature. Commercial Lithium-ion batteries usually contain an electrolyte that is dissolved in flammable solvents. The use of a solid electrolyte eliminates the flammability issue associated with currently used liquid electrolytes. Sulfur-based superionic solids with high Li-ion conductivity ( $10^{-3}$  S/cm) at room temperature (and more than an order of magnitude higher at 60 °C) were not commercially available until more than a year ago when NEI first introduced LSPS in powder form. Since then, SSE-10 powder has been tested by industrial corporations (automotive, electronics, oil & gas) as well as academic and research institutes. By offering the material in slurry form, SSE-10D is readily castable into films & tapes and provides more options for cell designers to combine with suitable cathode and anode active materials. Additionally, SSE-10D allows limited atmospheric stability to the solid electrolyte particles, which otherwise need to be handled in a controlled environment.

NANOMYTE® SSE-10D is available in small as well as bulk quantities, and it can be supplied in customized formulations, with the addition of an active material (such as LCO, LFP, NCA, LMNO, graphite, and LTO).

NEI Corporation has been a long trusted source for customized cathode and anode materials used in lithium batteries. The company specializes in developing new compositions and particle morphologies, including nanoscale particle engineering. NEI also has an extensive battery research and characterization facility, which includes multi-channel cell testers. The introduction of NANOMYTE® SSE-10 last year, and now SSE-10D, will provide new capabilities to lithium battery developers and manufacturers to enable practical solid state batteries.

For more information, see NANOMYTE® SSE-10D’s [Technical Data Sheet](#) and [Material Safety Data Sheet](#).

#### About NEI Corporation:

NEI Corporation is an application driven company that utilizes nanotechnology to develop and produce advanced materials. The company’s core competencies are in synthesizing nanoscale materials and prototyping products that incorporate the advanced materials. NEI Corporation offers cathode and anode materials (both powders and coated electrodes), and solid state electrolytes for use in lithium-ion batteries. The company produces battery materials through a scalable and economical synthesis process, which is adaptable to different materials compositions and particle morphologies.

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