**Appearance**

Lectro® Max Powder, Stabilized Lithium Metal Powder (SLMP®), is a gray powder.

**Applications**

Lectro® Max Powder (SLMP®) enables a new generation of Li-ion batteries by providing an independent source for lithium, which opens up choices for both anode and cathode materials. Introducing lithium in a stabilized powder form with the anode host material, such as Si and Sn-based, to form a lithium-ion system leads to a higher energy battery with more efficient utilization of lithium. Using non-lithium providing cathodes like manganese, vanadium or other metal oxides and metal fluorides that are more overcharge tolerant and potentially have lower costs, leads to safer and cheaper batteries. When used in combination, these materials can potentially double the energy density of the current lithium-ion battery.

Lectro® Max Powder (SLMP®) could be used to replace thin lithium foil applications and in Fusion Research Devices to improve plasma performance.

**Product Specifications**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Li, wt. %</td>
<td>97.0 min</td>
</tr>
<tr>
<td>Li₂CO₃ wt. %</td>
<td>0.5 min – 2.5 max</td>
</tr>
<tr>
<td>Malvern d50, µm</td>
<td>25 - 60</td>
</tr>
<tr>
<td>Malvern d100, µm</td>
<td>250 max</td>
</tr>
</tbody>
</table>

**Physical Properties**

- Formula weight: 6.94
- True density: 0.353 g/cm³
- Melting point: 180.5°C

**Toxicity/Safety Data**

In contact with water releases flammable gases which may ignite spontaneously. Causes severe skin burns and eye damage. Self-heating; may catch fire. Keep away from any possible contact with water, because of violent reaction and possible flash fire. Handle under inert gas. Protect from moisture. Keep cool. Protect from sunlight. Wear protective gloves/protective clothing/eye protection/face protection. In case of fire: Use graphite, copper powder, Lith-X (Ansul) for extinction. IF ONSKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.

*COMPLETE INFORMATION ON TOXICITY AND SAFETY IS CONTAINED IN THE SAFETY DATA SHEET (SDS) AVAILABLE FOR THIS PRODUCT.*
Handling/Storage/Disposal

For bulk containers, wear goggles or safety glasses and face shield in a vented area with fume/dust abatement, or a full face respirator. Wear fire-retardant clothing. Wear dry, gauntlet style rubber gloves. Use proper anti-static precautions including grounding of all containers, equipment, tools, and operators. Dust abatement system should allow for safe disposal of any accumulated dust (e.g., filter disposal). Proper fire suppression systems should be in place. Transfer of bulk quantities should be performed under a dry argon atmosphere with proper mitigation of dust.

Store sealed containers in climate-controlled area, away from excessive moisture and humidity, with fire suppression system in place.

For small amounts (< 0.1 kg) wear safety glasses and some additional face protection (may include goggles (in place of glasses), face shield, or fume hood sash in proper position. An appropriate dust mask should be used. Alternatively, an argon glovebox can be used. Some dust abatement should be in place (e.g., fume hood). Dust abatement system should allow for safe disposal of any accumulated dust (e.g., filter disposal). Use chemical resistant gloves such as nitrile (also can be anti-static). Wear fire-retardant clothing. Use proper anti-static precautions including bonding and grounding of all containers, equipment, tools, and operators where possible. Proper fire suppression should be in place.

Transfers should be made under argon when possible, although handling briefly under a dry air atmosphere (relative humidity < 1%) is acceptable when applying the material for use.

Store sealed containers in dry climate controlled location with fire suppression system. Keep away from water, humid air, acids, oxidizing materials, and flammable material. Keep away from heat, sparks, and flame. Ground bulk containers.

Shipping Limitations

Shipments of SLMP are described as "UN3209, METALLIC SUBSTANCE, WATER-REACTIVE, SELF-HEATING (STABILIZED LITHIUM METAL POWDER), 4.3 (4.2), PG I. All shipments require "Dangerous When Wet" and "Substances Liable to Spontaneous Combustion" labels.