Dupré Minerals’ AVD, aqueous vermiculite dispersion, is composed of high aspect ratio vermiculite platelets in water; vermiculite is the name given to a group of hydrated laminar aluminium-iron-magnesium silicates. AVD(Li) is a highly beneficiated, tightly-controlled formulation for use as the fire extinguishing agent in aerosols designed to tackle lithium-ion battery fires.

A lithium-ion battery fire may result from physical damage that causes a short circuit, overcharging or by increased external temperature. The increased temperature leads to boiling of the electrolyte and thermal decomposition of the separator and electrodes; overall, this is termed thermal runaway. Particular issues for lithium-ion batteries are the volatile and flammable electrolyte, their high energy density and the fact that they are ubiquitous – a low failure rate is still a significant number of fires.

WHAT IS AVD(LI)?

A natural mineral-based fire-extinguishing agent.
A gold/brown, stable, aqueous suspension of Vermiculite platelets.
AVD is non flammable and has excellent thermal insulation properties.

TYPICAL PROPERTIES OF AVD(LI)

It has a solids content of 13.5%.
It's Brookfield viscosity [Sp3, 100 rpm] is <500 cP.
It’s particle size as measured by light scattering is:

<table>
<thead>
<tr>
<th>Specification</th>
<th>Typical result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dv90</td>
<td>&lt;180 μm</td>
</tr>
<tr>
<td>Dv50</td>
<td>60-65 μm</td>
</tr>
<tr>
<td>Dv10</td>
<td>20 μm</td>
</tr>
</tbody>
</table>

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