



Liquefied Gas Electrolytes

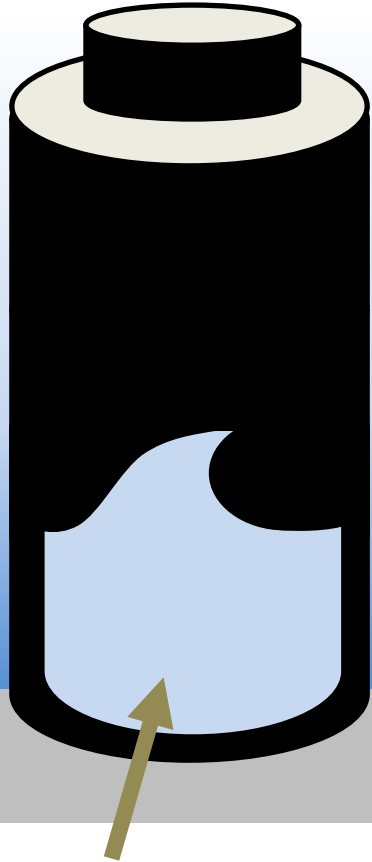
for Lithium Batteries

Hamid Sayadi

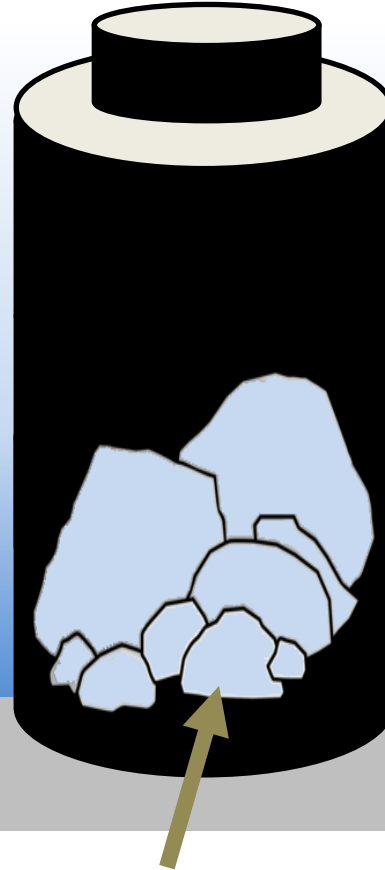
CCO

South 8 Technologies, Inc.

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***Conventional Liquid
Battery Electrolyte***



***Solid State
Electrolyte***



***Liquefied Gas
Electrolyte (LiGas™)***



All South 8's *LiGas* component materials are available commercially off-the-shelf and used widely in several industries today.

- Non-toxic
- Low-Flammability
- Low cost and/or easily scalable
- All gasses manufactured domestically
- Compatible with conventional separator, cathodes, binders, etc.

---Performance Enhancements---



Increased Energy

Higher voltage and capacity cells allow for >300 Wh/kg Li-ion and >400 Wh/kg Li-Metal (future)



Improved Safety

Rapid electrolyte venting enables safer cells under physical or electrical abuse



All Weather Resilience

World record -60 to +60 °C operation reduces engineering costs of thermal management



Fast Charge

High electrolyte conductivity enables 15 minute fast-charge, meeting EV requirements



Battery Integration Optimization

Mass and volume savings due to improved safety and lower thermal management requirements

---Lower Cost Manufacturing---



Manufacturing Compatibility

Existing manufacturing & supply chain provides most necessary components at scale



Thicker Electrodes

Ability to wet thicker electrodes reduces manufacturing cost and increases cell capacity



Rapid Electrolyte Wetting

Faster injection & wetting times reduces the cell idling time prior to cell formation



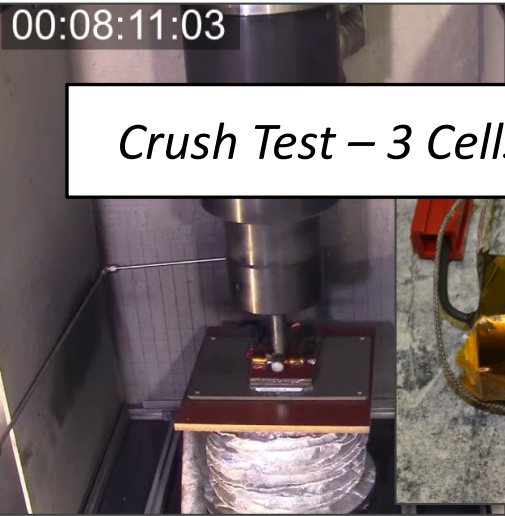
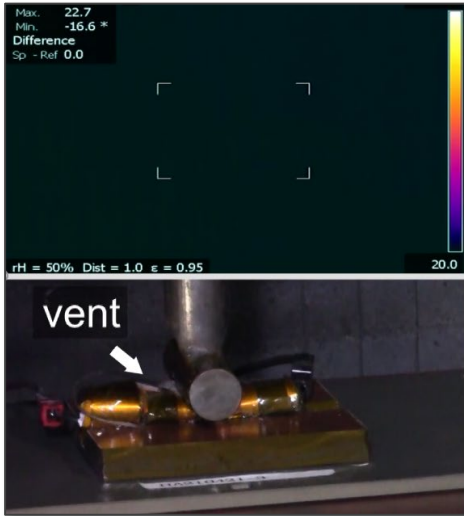
Reduced Formation Time

Demonstrated reduced formation of Li-ion cells can reduce cell cost considerably



Recycling

Simple venting of electrolyte allows for reduced recycling cost with cheaper transportation

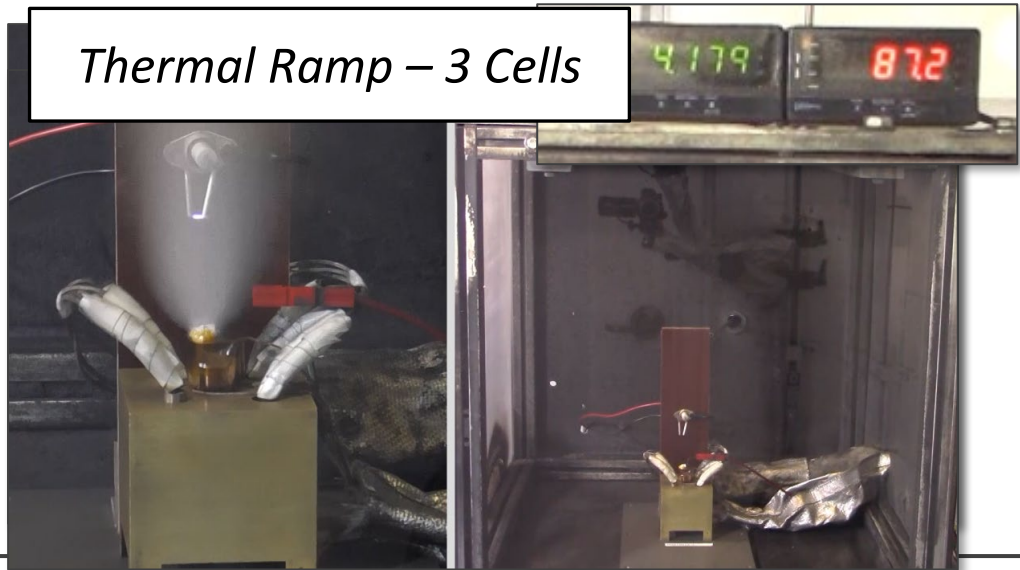


Crush Test – 3 Cells

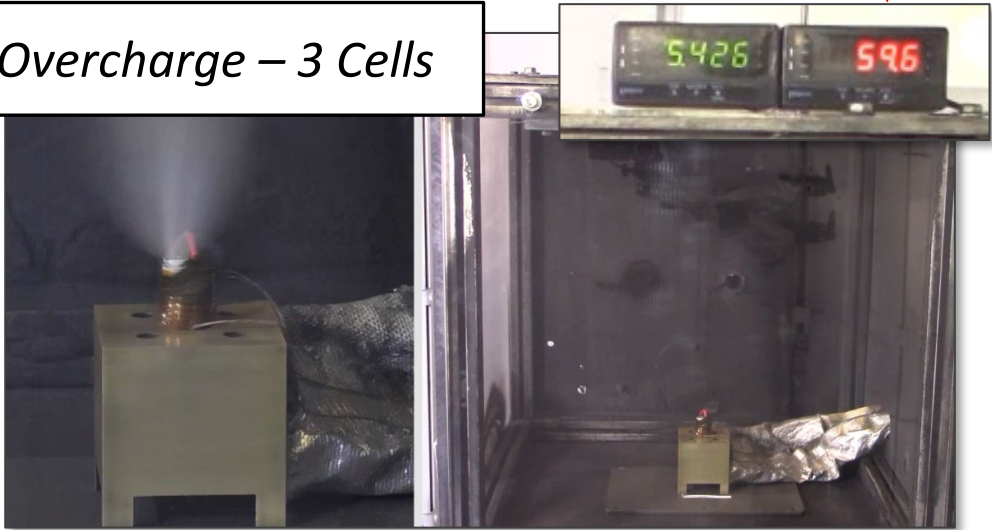


--3rd Party Safety Testing--
LiGas Cells Fail Safely

Thermal Ramp – 3 Cells



Overcharge – 3 Cells



Voltage

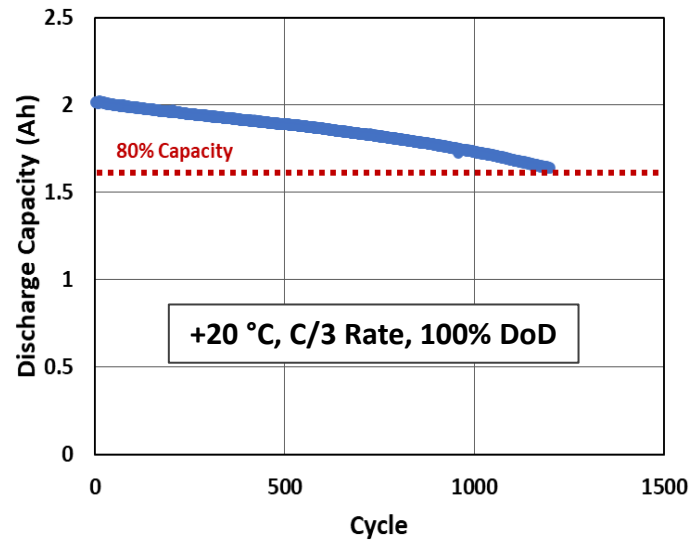
Temperature

*Demonstrated
Performance*

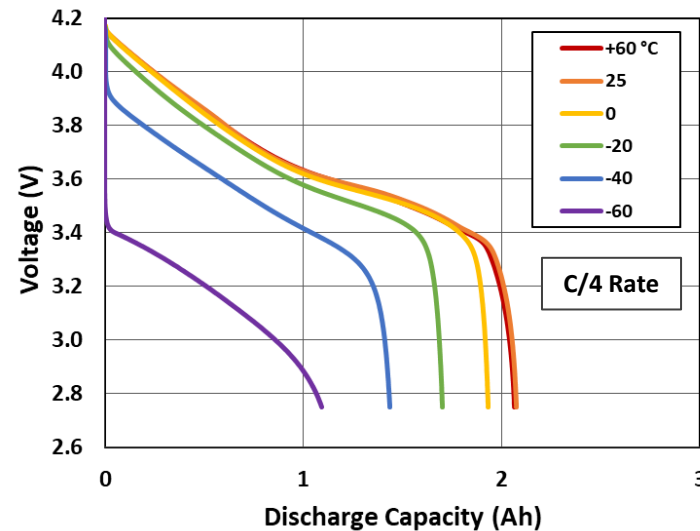
*Customer
Validated*

*Pilot Production In
California*

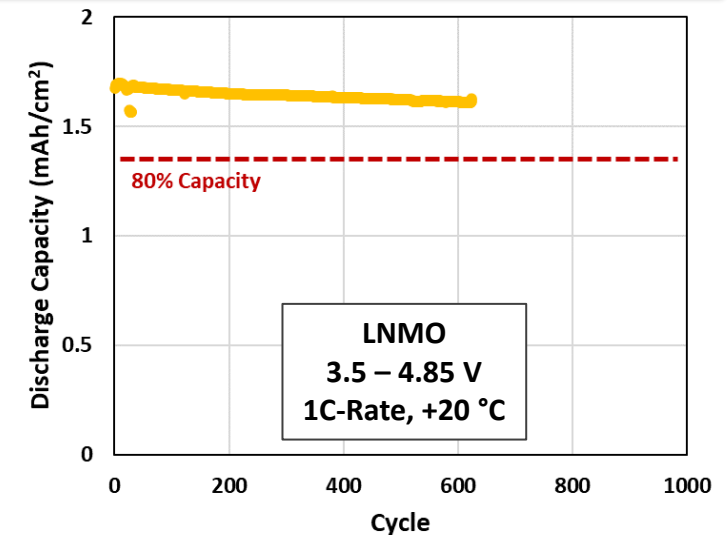
*Technology
Licensing*



Excellent Cycle Life



-60 to +60 °C Operation



**Cobalt-Free, High Power
4.85V LNMO Cathode**

SOUTH 8 **TECHNOLOGIES**

Next Generation Energy Storage Devices



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