

# Reliance Lithium Werks Acquires Patent US9269955: Manganese Based Phosphates, LMFP and related Electrode Active Material

*Next generation LFP provides > 20% more energy density while delivering power, safety, and life.*

ROUND ROCK, TEXAS, UNITED STATES, July 12, 2023 /EINPresswire.com/ -- [Reliance Lithium Werks](#) Technology, B.V. is pleased to announce its acquisition of a "composition of matter" patent on LMFP in the United States, US Patent No. 9269955 (referred to as '9955).

'9955 is just one of Reliance Lithium Werks' (RLW) many 221 patents. The provisional application was originally filed in 2009 and not issued until 2016. Dr. Yazid Saidi, Chief Technology Officer of RLW, is one of the two authors of the patent, with the other being Dr. Haitao Huang, who is now a scientist for Solid Power in Colorado, USA. The patent was one of over 100 patents that Lithium Werks acquired in 2018 in the management buyout of Valence Technology, Inc, and is now owned by Reliance Lithium Werks Technology B.V.

This new "Gen 5" cathode material is an innovative breakthrough which incorporates all the power, safety, and life benefits of LFP, but provides up to 22% more energy density.

The chemistry of the material specified by patent '9955 has all the attributes of LFP including:

- No nickel and no cobalt
- Inherent safety
- Long cycle life
- Excellent power
- Fast charging and discharging capability
- Broad temperature performance

The real breakthrough for the industry is that the material has a higher voltage (3.9 volts vs 3.2 volts for energy grade LFP). At > 20% higher voltage, it has much better energy density than LFP. The energy density will be in the 210 -220 Whr/kg range and is in the same bracket as mid-level NMC without any hazardous materials, safety concerns, and cycle life shortcomings of NMC, while retaining the cost advantage of LFP.

Dr. Saidi, CTO of RLW, states the importance of this ground-breaking patent, "The fundamental and pioneering work conducted by Valence Technology's R&D team, as early as 2006, is probably the industry's earliest demonstration of the great potential that such materials hold, by

overcoming, earlier on, the challenges this class of materials presented, namely, their limitations in both electronic and ionic conductivities and the undesirable 2-plateaus voltage profile. This class of materials is currently one of the most sought after by the industry at large, and now has reached a commercial viability to seriously address the vital need to address both long-range anxiety and more importantly, the cost and safety to make the EV transition a commercial reality.”

This cathode material can be used in cylindrical, pouch and prismatic format.

“Reliance Lithium Werks is excited about this game-changing technology and are proud to hold this intellectual property,” states Joe Fisher, CEO. “We are open to licensing this material to those who want to take advantage of our best-in-class material.”

Those who are interested in licensing the technology should contact Reliance Lithium Werks: <https://lithiumwerks.com/contact/>

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