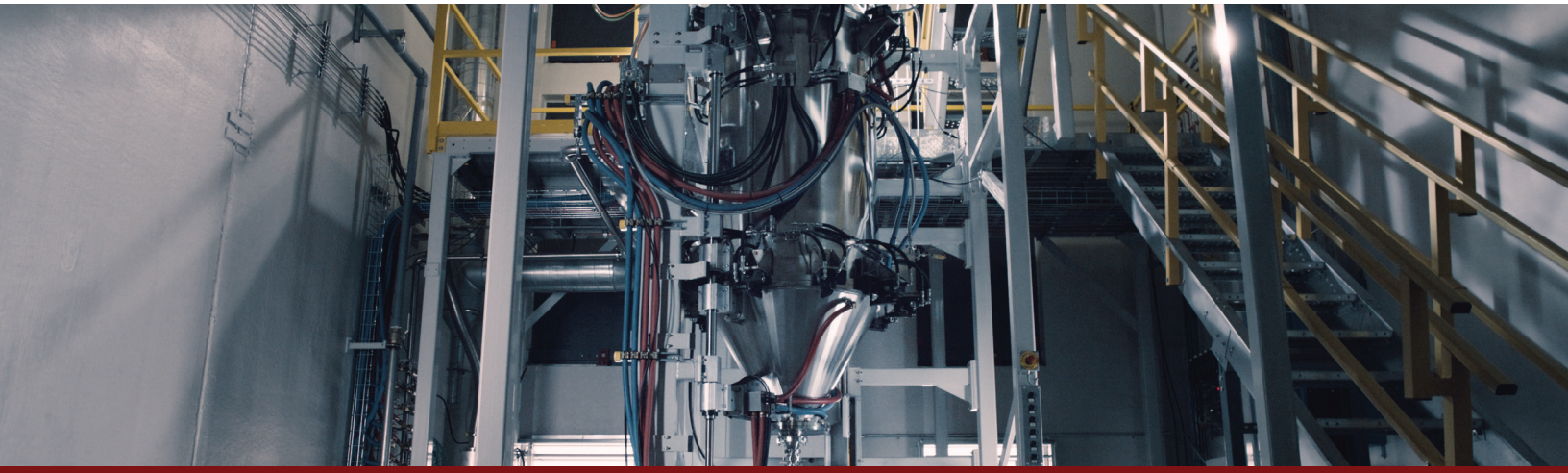
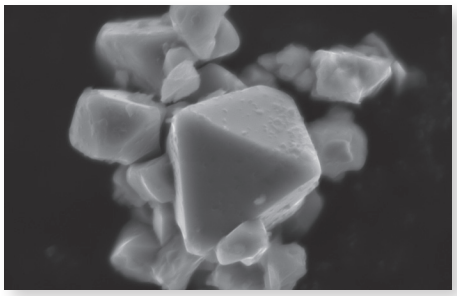


NMC 811 Single Crystal Specifications

SUSTAINABLE BATTERY MATERIAL PRODUCTION - FASTER, CLEANER AND AT A LOWER COST THAN CONVENTIONAL METHODS

While other processes are constrained by the rules of traditional chemistry, 6K Energy can produce virtually any chemistry, addressing all markets, designed optimally for power, energy density, and cost. 6K Energy has the ability to produce single crystal NMC 811, desired in the industry but challenging and costly to do with conventional methods. Single crystal NMC enables improvements in cycle life and safety. 6K Energy can produce NMC 811 with its UniMelt® technology at a significantly lower environmental impact than conventional methods. Based on a 3rd party LCA by Minviro, the UniMelt process reduces CO_2 emissions as much as 65% versus co-precipitation.

Physical Properties	Specification
d10 (µm)	≥1.5
d50 (µm)	4 ± 1
d90 (µm)	≤9.2
BET (m2/g)	<1
Tap (g/cc)	>1.5
Bulk (g/cc)	>0.8
True Density (g/cc)	4.7



6K Energy NMC 811 Single Crystal SEM

Chemistry and E-Chem	Specification
Risidual Li Salts ($LiOH+Li_2CO_3$ Wt%)	<0.5%
First Charge Capacity* (mAh/g)	>227
First Discharge Capacity* (mAh/g)	206 ± 4
First Cycle Efficiency*	>88%

*C/10-D/10
4.3 vs. Li (m)