

**Design, Performance And Industrial Production Of  
Nanosized Lithium Titanate-Spinel  $\text{Li}_4\text{Ti}_5\text{O}_{12}$ .**

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Proper design, product development and manufacturing of nanoscale ceramic materials are hard to imagine without fundamental understanding of the physics and chemistry involved in their applications.

We want to demonstrate such an approach on a practical example of manufacturing of nanosized  $\text{Li}_4\text{Ti}_5\text{O}_{12}$  (LTS) for lithium ion batteries.

The applied fundamentals about chemical composition, doping, crystal phase purity control, particle size, morphology, sintering and other properties led to a successful production of a nanosized LTS material that is able to handle charge and discharge in few seconds and has practically unlimited cycle stability.

Figure 1. Nanosized lithium titanate electrode grade powder, suitable to stand charge and discharge in few seconds.

