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Takcade LNC 190

Type	Nano-surface modified lithium nickel cobalt oxide ($\text{LiNi}_x\text{Co}_{1-x}\text{O}_2$) 。	
Supply Form	Dark gray powder form。	
Usage	In the formulation of cathode for lithium-ion batteries 。	
Specification	Appearance	Dark gray powder
	XRD	$\alpha\text{-NaFeO}_2$
	Tap Density(g/c.c)	> 2.4
	SSA (m^2/g)	< 0.6
	Particle Size(μm) D_{50}	12 ~ 17
	Li (%)	6 ~ 9
	Ni (%)	46 ~ 52
	Co (%)	9 ~ 12
	Fe (%)	< 0.02
	Na (%)	< 0.035
	Cu (%)	< 0.015
	Other Data*	PH value
Water content (%)		< 1
Unit Capacity (coin-cell, 0.1C, 2.8v-4.3v)		> 185 mAh/g

*These values provide general information and are not part of product specification.

- Properties**
1. Takcade LNC 190 is designed for the alternative use of cathode for high capacity and high energy density secondary lithium batteries.
 2. Takcade LNC 190 is designed to provide an capacity above 185 mAh/g. With unique process treatment, Takcade LNC 190 can easily reach high press desity which leads to the increase



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of energy density by at least 10% compared to Takcade LNC 180.

3. Takcade LNC 190 is modified with nano technology resulted in high safety passing various safety test e.g., crush, nail penetration and over charge.

4. Takcade LNC 190 also has longer cycle-life. With 1C rate, its cycle life can reach 500 to 1000 cycles which generate superior performance as compared to lithium cobalt oxide.

Application

Takcade LNC 190 has been designed for the use of cathode for lithium-ion batteries, especially for the higher capacity applications such as notebook 18650 cells, cellular phone cells. In addition, Takcade LNC190 can be used as the additive to improve the capacity and cycle life of lithium manganese oxide. The dosage is about 10-15%. Nickel-rich cathode material is known to have alkaline residue and easy to absorb moisture. It is recommended to pre-mix 0.1% to 0.5% W/W (for LiNiCoO_2) of Oxalic acid anhydrous. It is suggested to bake the material at 120°C in a vacuumed condition prior to slurry preparation. Mostly, the relative humidity of environment has to be controlled below 50%. Slurry should be used at once and never be stored. By selecting proper electrolyte, the cell can display the characteristic of Takcade LNC 190 and longer cycle life can be ensured.

Storage

Takcade LNC 190, a nickel-rich material is known to easily absorb moisture. Therefore, the vacuumed packaging should be stored without damage and treated with care. With proper storage condition, this product shelf time can be extended to as long as 1 year.

Safety

Hazardous level:

Inflammable. May cause irritations when in contact with skin.

Please refer to material safety data sheet MSDS (95-1674/1) for details of product labeling, product transportation, product storage and product manuals and safety.

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