

Secondary Battery

Cathode, Anode, Solid Electrolyte Materials

1. Powder
2. Printable Paste
(Particle Size, Viscosity, Resin, Water, Organic Solvent) etc... as you request)
4. Oxide Material Synthesis for SOFC besides below table as customer request
5. Surface Coating with conductive carbon, carbon nanotube, SiO₂, Oxide etc...
6. Metallic Doping of Oxide Materials in order to modify the electrochemical properties.

Lithium Ion Battery Cathode		
Material	size in powder	size in liquid (particle sol in water or organic solvent)
LiCoO ₂	1-10 μm (powder)	< 150 nm (liquid dispersion)
LiMn ₂ O ₄	1-10 μm (powder)	< 150 nm (liquid dispersion)
LiNi _{1/3} Mn _{1/3} Co _{1/3} O ₂	1-5 μm (powder)	< 150 nm (liquid dispersion)
LiMn _x Fe _y PO ₄	1-10 μm (powder)	< 150 nm (liquid dispersion)
LiFePO ₄	1-10 μm (powder)	< 150 nm (liquid dispersion)
LiMnPO ₄	1-10 μm (powder)	< 150 nm (liquid dispersion)
Li ₂ FeSiO ₄	1-10 μm (powder)	< 150 nm (liquid dispersion)
Li ₂ MnSiO ₄	1-10 μm (powder)	< 150 nm (liquid dispersion)
LiMn _x Fe _y SiO ₄	1-10 μm (powder)	< 200 nm (liquid dispersion)
Li ₂ FeP ₂ O ₇	1-5 μm (powder)	< 200 nm (liquid dispersion)
Lithium Ion Battery Anode		
Material	size in powder	size in liquid (particle sol in water or organic solvent)
Li ₄ Ti ₅ O ₁₂	1-10 μm (powder)	< 200 nm (liquid dispersion)
Magnesium Ion Battery Cathode		
Material	size in powder	size in liquid (particle sol in water or organic solvent)
Mg _x Co _y O	1-10 μm (powder)	< 200 nm (liquid dispersion)
Mg _x Ni _y O	1-20 μm (powder)	< 200 nm (liquid dispersion)
Sodium Ion Battery Cathode		
Material	size in powder	size in liquid (particle sol in water or organic solvent)
NaCoO ₂	1-10 μm (powder)	< 150 nm (liquid dispersion)
NaFeO ₂	1-10 μm (powder)	< 150 nm (liquid dispersion)
Na _{0.7} MnO ₂	1-20 μm (powder)	< 250 nm (liquid dispersion)
Solid Electrolyte for Lithium Ion Battery		
Material	size in powder	size in liquid (particle sol in water or organic solvent)
Li _x La _y TiO ₃	1-10 μm (powder)	< 150 nm (liquid dispersion)
Li _x La _y TiO ₃	pressed pellet	
Li _x La _y ZrO ₃	1-10 μm (powder)	< 150 nm (liquid dispersion)
Li _x La _y ZrO ₃	pressed pellet	

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