

who can use high-purity iron oxides
to enhance cathode performance
for lithium-ion batteries?

you can.

working for you.

SunChemical®

a member of the DIC group



High Performance Cathodes

Lithium iron phosphate (LiFePO_4 or LFP) is a cost-effective cathode material for lithium-ion batteries due to its excellent safety and long-life span. LFP batteries are particularly suited for specialty battery applications that require high load currents and endurance.

Cathode materials are one of the key components for the performance of lithium-ion batteries. Olivine-type lithium iron phosphate is a promising cathode material for lithium-ion batteries due to its low cost, high energy density, safety, structure stability, and preferred environmental profile. In addition, the material has good thermal and cycling stability. The electrochemical performance of cathode materials used in LFP batteries vary significantly depending on its raw materials.



Dedicated Product Line for LFP Batteries

SunBURST™ is a special line of engineered ultra-high purity iron oxides for the manufacturing of high-performance cathodes for LFP batteries. SunBURST™ is specially designed with iron oxides that can be used in solid-state Carbo-thermal reduction process that allows the direct use of Fe (III) compounds as iron precursors. Carbo-thermal reduction is an efficient approach to produce LiFePO_4 powders with fine, uniform particle morphology and high capacity. High purity raw materials with tightly controlled consistency, such as particle size and morphology of iron precursors, have profound influences on the electrochemical properties and low temperature performance of LFP cathode materials.

SunBURST™ ultra-high purity iron precursor products are manufactured in our U.S. plant in Valparaiso, Indiana. They are specifically engineered to be used as high-performance iron precursors for cathode active materials used in LFP batteries with consistent properties and desirable electrochemical performance.

Key attributes and benefits:

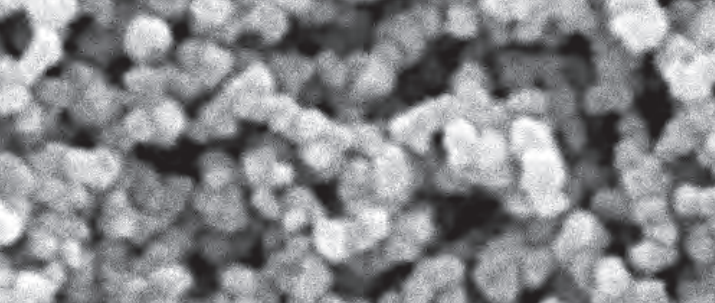
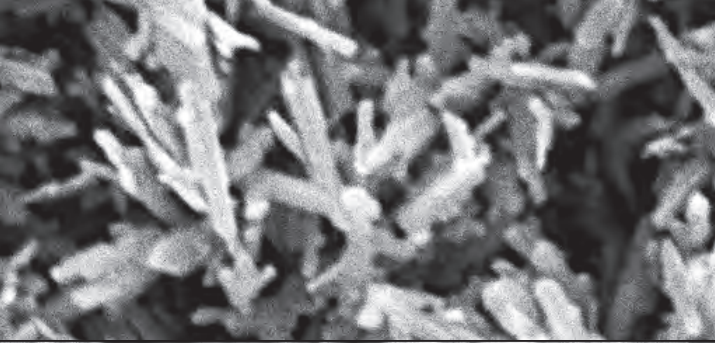
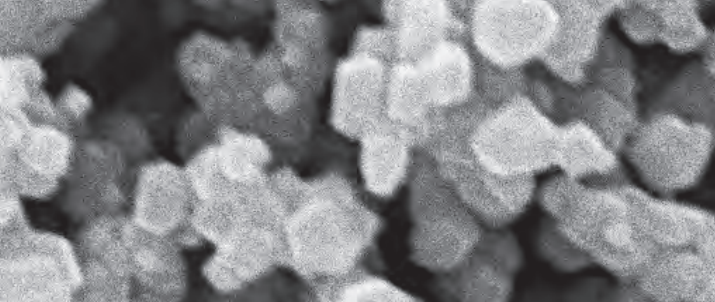
- Ultra-high purity iron precursors
- Controlled particle size and morphology
- Consistent products
- Easy to incorporate
- Reliable supply
- Tailor-made solutions available

We Deliver Solutions, Not Just Products

When you are looking for an innovative partner for product solutions that will outperform the competition, turn to Sun Chemical. A world leading supplier of organic, inorganic pigments, pigment preparations, effect pigments, functional products, and specialty products. Sun Chemical continues to deliver quality, service and innovation with our expanded line of functional high purity iron oxides. Engineered for high performance cathode active materials for lithium ion batteries, our specially designed iron precursors are the perfect solution for your lithium-ion batteries by enhancing their reliability and performance.



SunBURST™ Iron Precursors for Cathode Active Materials

Crystal Morphology (SEM)	Product Type
	Fe ₂ O ₃ /Hematite
	FeOOH/Goethite
	Fe ₃ O ₄ /Magnetite

**quality****service****innovation****A partner who transforms with you.**

Today's environment requires more than change. It demands transformation — and a partner who's willing to transform with you. Sun Chemical, a member of the DIC group, is a leading producer of printing inks, coatings and supplies, pigments, polymers, liquid compounds, solid compounds, and application materials. Together with DIC, Sun Chemical has over 20,000 employees located at 176 subsidiaries across 63 countries working every day to meet the needs of customers by improving performance on the essentials of business, such as reliable, on-time delivery and consistent product quality. Sun Chemical tailors solutions to unique customer needs and brings new ideas and the latest technology to market. As you move forward into a world of stiffer competition, faster turnarounds, more complex demands and sustainable products, count on Sun Chemical to be your partner.

working for you.

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