

# Lithium Orthophosphate



## Sputtering Targets



## Advanced Engineering Materials

### Applications

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- Reactively deposited in partial pressure of nitrogen to produce LIPON (lithium phosphorous oxynitride)
- Electrolyte layer in rechargeable thin film batteries

### Features

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- High purity
- High density
- Stoichiometric
- Phase pure
- Homogenous

### Manufacturing Process

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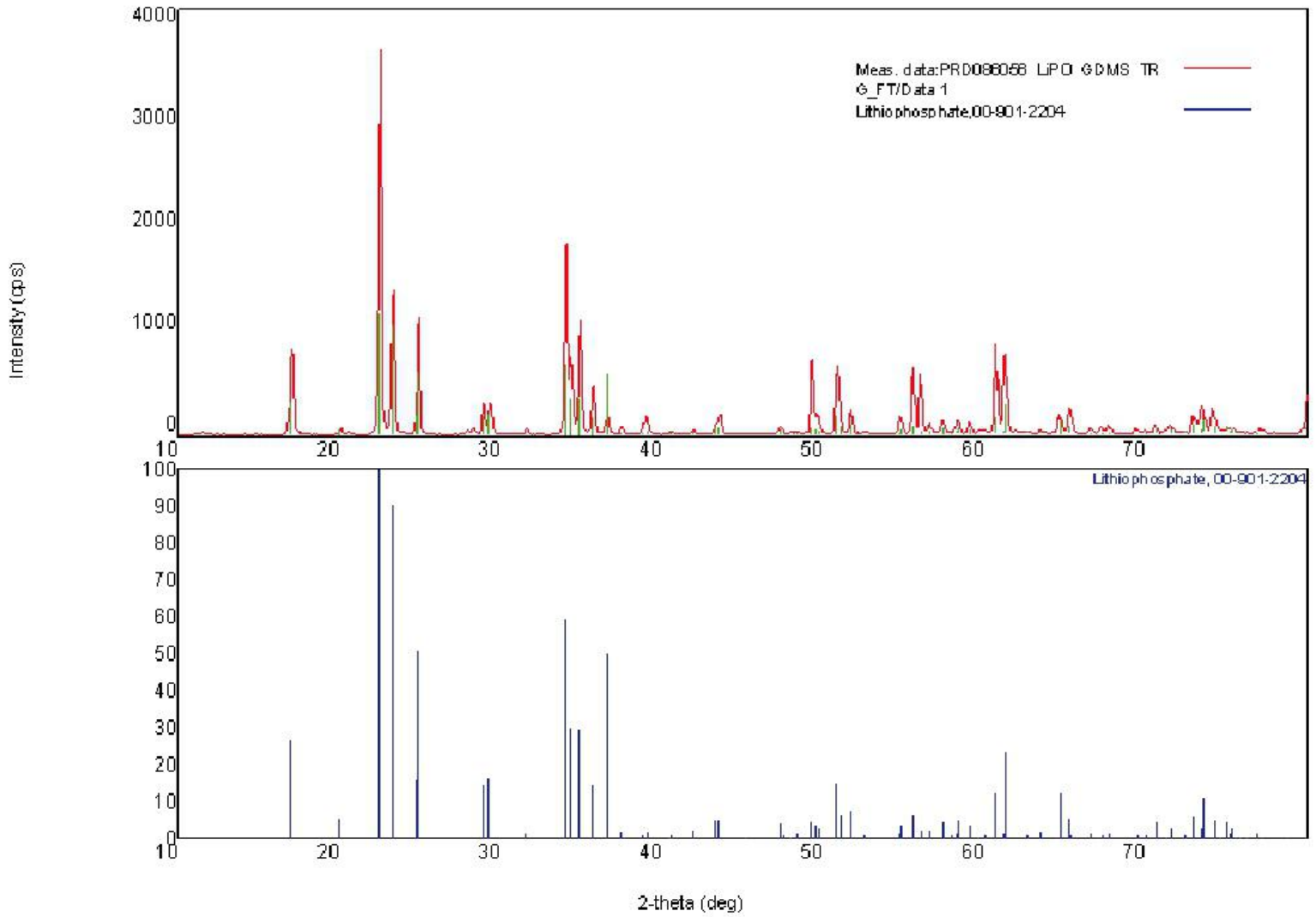
- In-house powder synthesis
  - High purity precursor materials
  - Wet chemistry process utilized for powder synthesis
  - High energy mixing
  - Specially formulated calcination schedule
  - Particle sizing processes
- Multiple step densification
  - Proprietary processes employed for pressing and sintering
- Cleaning and final packaging
  - Cleaned for use in vacuum
  - Protection from environmental contaminants
  - Protection during shipment

### Options

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- 99.95% purity
- Custom compositions may be available upon request
- Circular targets up to 12" (300 mm) diameter
- Planar tiles up to 8" (250 mm) X 5" (125 mm) for larger target configurations
- Smaller sizes also available for R&D applications
- Sputtering target bonding service

# X-Ray Diffraction Pattern of Sintered $\text{Li}_3\text{PO}_4$ Sputtering Target



## Specifications

**Typical Analysis - 99.95% (3N5) Purity**

Metallic Impurities, ppm by weight

Al	Ba	Co	Cr	Fe	Mg	Mo	Na	Ni	Si	Zn	Zr
<30	<10	<10	<110	<160	<5	<5	<10	<50	<50	<10	<50

Theoretical Density	2.46 g/cm <sup>3</sup>
Relative Density	2.26 g/cm <sup>3</sup> minimum
Appearance	White, may have blue spots

## Advanced Engineering Materials

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