

# Global and China Lithium Battery Separator Industry Report, 2014-2016

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## Abstracts

The lithium battery cell is composed of cathode material, anode material, electrolyte and separator, of which, lithium battery separator as a high value-added material with the highest technical barrier among lithium battery materials accounts for about 15-20% of the battery cost. The main role of the separator is to separate the positive and negative electrodes of the lithium-ion battery, thus preventing two neighboring contacts from a short circuit.

In 2013, the global and Chinese lithium battery separator mainly presented the following characteristics:

First, the global capacity was expanded by a large margin, and prices continued to fall.

According to ResearchInChina, the global mainstream suppliers of separator (other than China) had put 1.018-billion-m<sup>2</sup> capacity into production as of 2013, of which, the wet process held a dominant position by attaining 848 million m<sup>2</sup>; the dry process contributed 170 million m<sup>2</sup>, which came mainly from U.S.-based Celgard and Japan-based UBE Industries, with 180-million-m<sup>2</sup> dry process capacity under construction.

The global shipment of lithium battery separator increased from 273 million m<sup>2</sup> in 2008 to 843 million m<sup>2</sup> in 2013, so did the overall capacity from 362 million m<sup>2</sup> to 1.9 billion m<sup>2</sup>, the capacity expansion grew much faster than demand. The global capacity utilization then fell to 44% in 2013.

Boosted by the huge market demand for separator, the global capacity will continue to be released. It is expected that the global lithium battery separator market will be featured with quantity increases and price collapses, with the average price falling from

USD1.73 / m<sup>2</sup> in 2013 to USD1.48 / m<sup>2</sup> in 2016.

Second, the lithium battery separator market concentration continued to decline.

As the Chinese lithium battery separator capacity was put into production in large quantities, the global separator market concentration suffered decline. In 2013, Japan-based Asahi Kasei, U.S.-based Celgard, South Korea-based SKI and Japan-based Toray Tonen occupied a 56.8% share of the global market, showing a sharp decline as opposed to the market concentration in 2008, when Asahi Kasei, Celgard, Toray Tonen and UBE Industries as the top four companies accounted for 82.8%.

In 2013, China's domestic separator shipment reached 265 million m<sup>2</sup>, showing a year-on-year increase of 61%, the proportion (in global shipment) rose from 17% in 2010 to 31% in 2013, so did the localization rate from 28% to 52%. The same year, the three biggest suppliers of separator in China - Xinxiang Zhongke Science and Technology (GREEN) Co., Ltd, Shenzhen Senior Technology Material Co., LTD and Foshan Jinhui Hi-tech Optoelectronic Material Co., Ltd hit 52.4% market share.

Third, the high-performance separator will become the main demand growth point for the future lithium battery separator market.

In 2013, the global shipment of lithium battery separator attained 843 million m<sup>2</sup>, up 33.2% YoY; the compound growth rate was 22.6% in 2007-2013. In view of the strong demand from electric vehicles, energy storage devices, etc. for power lithium battery, the global demand for lithium battery separator will come to 1.99 billion m<sup>2</sup> in 2016, at a compound growth rate as high as 33% in 2013-2016.

The global shipment of ordinary lithium battery separator used for 3C electronic products reached 633 million m<sup>2</sup> in 2013, expected to grow at a compound rate of only 11% in 2013-2016, to 1.135 billion m<sup>2</sup> by 2016. This is due to the slowdown in global demand for notebook, smartphone, tablet PC and other digital products since 2014.

In 2013, the global shipment of high-performance separator used for electric vehicles and energy storage devices realized 210 million m<sup>2</sup>, accounting for 25% of the demand; by 2016, the shipment will hit 1.135 billion m<sup>2</sup> (at a compound growth rate of 75% in 2013-2016), with a demand proportion of 57%. Thus, the high-performance separator will become the main demand growth point for the lithium battery separator market in the future.

**Global and China Lithium Battery Separator Industry Report, 2014-2016 by ResearchInChina mainly covers the followings:**

Production preparation process, key technical performance and technology development direction of lithium battery separator;

Shipment, import volume, market size, price, etc. of the global and Chinese lithium battery separator industry;

Market share, manufacturing technique, capacity, supply relationship, etc. of global and Chinese lithium battery separator companies;

Shipment, market size, cell vendors of global and Chinese ordinary lithium batteries and power batteries.

Operation, technology, market, production & marketing of ten lithium battery separator companies in China;

Operation, technology, market, production & marketing of nine lithium battery separator companies in the world.

## Contents

### **1 INTRODUCTION TO LITHIUM BATTERY SEPARATOR**

- 1.1 Properties and Application
- 1.2 Classification

### **2 LITHIUM BATTERY SEPARATOR PRODUCTION PREPARATION AND TECHNICAL PERFORMANCE**

- 2.1 Base Material
  - 2.1.1 Polyolefin
  - 2.1.2 Non-woven Fabrics
  - 2.1.3 Ceramic Coating
- 2.2 Production Technique
  - 2.2.1 Wet Process
  - 2.2.2 Dry Process
  - 2.2.3 Comparison of Production Techniques
- 2.3 Key Technical Indices
  - 2.3.1 Porosity
  - 2.3.2 Air Permeability
  - 2.3.3 Electrolyte Uptake
  - 2.3.4 Aperture Size and Distribution
  - 2.3.5 Mechanical Property
  - 2.3.6 Automatic Shutdown Protection Performance
  - 2.3.7 Thermal Shrinkage
  - 2.3.8 Comparison of Key Technical Indices
- 2.4 Development Orientation of Technology

### **3 GLOBAL LITHIUM BATTERY SEPARATOR INDUSTRY**

- 3.1 Global Lithium Battery Separator Market
  - 3.1.1 Market Demand
  - 3.1.2 Market Size
  - 3.1.3 Product Price
- 3.2 Global Lithium Battery Separator Companies
  - 3.2.1 Market Share
  - 3.2.2 Technique and Capacity
  - 3.2.3 Supply Relationship

## **4 CHINA LITHIUM BATTERY SEPARATOR INDUSTRY**

### **4.1 China Lithium Battery Separator Market**

- 4.1.1 Market Demand
- 4.1.2 Homemade/Imported Separator
- 4.1.3 Market Size
- 4.1.4 Product Price

### **4.2 Chinese Lithium Battery Separator Companies**

- 4.2.1 Market Share
- 4.2.2 Technique and Capacity
- 4.2.3 Supply Relationship

## **5 GLOBAL AND CHINA LITHIUM BATTERY INDUSTRY**

### **5.1 Global Demand for Lithium Battery**

- 5.1.1 Demand for Ordinary 3C Lithium Battery
- 5.1.2 Demand for Power Lithium Battery
- 5.1.3 Lithium Battery Shipment
- 5.1.4 Lithium Battery Market Size

### **5.2 China's Demand for Lithium Battery**

- 5.2.1 Demand for Power Lithium Battery
- 5.2.2 Lithium Battery Shipment
- 5.2.3 Lithium Battery Market Size

### **5.3 Major Lithium Battery Manufacturers**

- 5.3.1 Market Share
- 5.3.2 Power Battery Manufacturers

## **6 GLOBAL LI-ION BATTERY SEPARATOR MANUFACTURERS**

### **6.1 Asahi Kasei**

- 6.1.1 Profile
- 6.1.2 Technology & Technique
- 6.1.3 Layout in China
- 6.1.4 Production and Marketing Network
- 6.1.5 Capacity and Output

### **6.2 Celgard**

- 6.2.1 Profile
- 6.2.2 Technology & Technique

- 6.2.3 Layout in China
- 6.2.4 Production and Marketing Network
- 6.2.5 Capacity and Output
- 6.2.6 Investment Plan
- 6.3 Toray Tonen
- 6.4 UBE
  - 6.4.1 Profile
  - 6.4.2 Technology & Technique
  - 6.4.3 Production and Marketing Network
  - 6.4.4 Capacity and Output
- 6.5 SKI
  - 6.5.1 Profile
  - 6.5.2 Technology & Technique
  - 6.5.3 Capacity and Output
  - 6.5.4 Customers
- 6.6 Entek
- 6.7 Mitsubishi Chemical
  - 6.7.1 Profile
  - 6.7.2 Technology & Technique
- 6.8 Sumitomo Chemical
- 6.9 Evonik Industries
- 6.10 W-Scope
  - 6.10.1 Profile
  - 6.10.2 Operation
  - 6.10.3 Gross Margin
  - 6.10.4 Capacity and Output

## **7 CHINESE LI-ION BATTERY SEPARATOR MANUFACTURERS**

- 7.1 Xinxiang Zhongke Science and Technology (GREEN) Co., Ltd
  - 7.1.1 Profile
  - 7.1.2 Technology & Technique
  - 7.1.3 Capacity and Output
- 7.2 Shenzhen Senior Technology Material Co., Ltd
  - 7.2.1 Profile
  - 7.2.2 Technology & Technique
  - 7.2.3 Capacity and Output
- 7.3 Foshan Jinhui Hi-tech Optoelectronic Material Co., Ltd
  - 7.3.1 Profile

- 7.3.2 Operation
- 7.3.3 Technology & Technique
- 7.3.4 Capacity and Output
- 7.4 Cangzhou Mingzhu Plastic Co., Ltd
  - 7.4.1 Profile
  - 7.4.2 Operation
  - 7.4.3 Gross Margin
  - 7.4.4 Technology & Technique
  - 7.4.5 Capacity and Output
  - 7.4.6 Customers
  - 7.4.7 Forecast and Outlook
- 7.5 Jiangxi Xian Cai Nanofibers Technology Co., Ltd
  - 7.5.1 Profile
  - 7.5.2 Operation
  - 7.5.3 Technology & Technique
  - 7.5.4 Investment Plan
- 7.6 Sinoma Science & Technology Co., Ltd
- 7.7 Zhejiang Great Southeast Co., Ltd
- 7.8 Jiangsu Jiujiujiu Technology Co., Ltd
- 7.9 Nantong Tianfeng New Electronic Materials Co., Ltd

## Selected Charts

### SELECTED CHARTS

Working Principles of Li-ion Battery

Polyolefin Separator Structure and Features

Characteristics of Non-woven Fabric Separator Technology and Typical Companies

Improvement of High Temperature Resistance of Ceramic Coated Separator

Micrograph of Wet Process PE Separator

Micrograph of Dry Process PP Separator

Structure and Features of Lithium Battery Separator with Varied Production Techniques

Comparison: Investment Costs of Wet Process and Dry Process in China

Comparison: Air Permeability of Different Separators

Aperture Distribution of Separators with Different Preparation Methods

Comparison: Tensile Strength of Different Separators

Comparison: Puncture Strength of Different Separators

Comparison: Automatic Shutdown Performance of Different Separators

Comparison: Thermal Shrinkage of Different Separators

Key Technical Indices of Separators with Different Base Materials

Common Electronics and Automobiles' Consumption of Lithium Battery Separator

Global Shipment of Lithium Battery Separator, 2007-2016E

Global Shipment of Ordinary and High-performance Lithium Battery Separator,  
2008-2016E

Global Lithium Battery Separator Market Size, 2008-2016E

Average Price of Global Lithium Battery Separator, 2008-2016E

Market Share of World's Lithium Battery Separator Enterprises by Shipment, 2013

Market Share of World's Lithium Battery Separator Enterprises by Shipment, 2008

Techniques and Production Capacities of International Lithium Battery Separator

Manufacturers at the End of 2013

Supply Relationship of International Lithium Battery Separator Manufacturers, 2013

Supply Relationship of International Power Lithium Battery Separator Manufacturers,  
2013

China's Shipment of Lithium Battery Separator, 2009-2016E

China's Shipment of Ordinary and High-performance Lithium Battery Separator,  
2009-2016E

Proportion of China's Shipment of High-performance Lithium Battery Separator in  
Global Total, 2010-2016E

Shipment of China-made Lithium Battery Separator, 2009-2016E

Shipment of China-made Lithium Battery Separator and % in Global Total, 2009-2016E



China-made and Imported Lithium Battery Separator Volume and Import Dependency, 2010-2016E

Import Volume and Value of Polyolefin Lithium Battery Separator in China, 2009-2016E

Import Sources of Polyolefin Lithium Battery Separator in China, 2013

China Lithium Battery Separator Market Size, 2009-2016E

Market Size of Home-made and Imported Lithium Battery Separators in China, 2009-2016E

Average Price of Home-made and Imported Separators in China, 2009-2016E

Market Share of Chinese Lithium Battery Separator Enterprises by Shipment, 2013

Market Share of Chinese Lithium Battery Separator Enterprises by Sales Value, 2013

Techniques and Production Capacities of Chinese Lithium Battery Separator Manufacturers at the End of 2013

Supply Relationship of Chinese Lithium Battery Separator Manufacturers, 2013

Applications of Li-ion Battery

Global Shipment of Notebook PC, Tablet Computer and Mobile Phone, 2012-2016E

Global Shipment of Lithium Battery for Notebook PC, Tablet Computer and Mobile Phone, 2012-2016E

Global Sales Volume of Electric Vehicle, 2008-2016E

Battery Capacity and Cruising Ability of Global Key Electric Vehicles

Single-vehicle Battery Capacity of Global Electric Vehicle, 2008-2016E

Power Battery Demand of Global Electric Vehicle, 2008-2016E

Global Shipment of Lithium Battery, 2008-2016E

Structure (%) of Global Demand for Lithium Battery, 2012-2016E

Global Shipment of Lithium Battery by Demand, 2008-2016E

Global Lithium Battery Industry Scale, 2008-2016E

Electric Vehicle Sales Volume in China, 2008-2016E

Proportion of China's Sales Volume of Electric Vehicle in Global Total, 2008-2016E

China's Shipment of Lithium Battery, 2008-2016E

Proportion of China's Shipment of Lithium Battery in Global Total, 2008-2016E

China Lithium Battery Industry Scale, 2008-2016E

Proportion of China's Lithium Battery Industry Scale in Global Total, 2008-2016E

China Power Lithium Battery Industry Scale and Its Proportion in the World, 2010-2016E

Proportions of China's, Japan's and South Korea's Shipment of Lithium Battery, 2012-2013

Market Share of World's Small Lithium Battery Firms, 2013

Market Share of World's Power Lithium Battery Enterprises, 2013

The Joint-stock Suppliers of Power Lithium Battery in the World

Battery Technologies and Sales Value of Chinese Power Lithium Battery Enterprises,

2013

Operating Revenue Structure of Asahi Kasei, FY2013/14

Battery Separator Micrograph of Asahi Kasei

Lithium Battery Separator (Asia Excluding Japan) Production Bases of Asahi Kasei

Administrative Organization of Asahi Kasei (China)

Lithium Battery Separator (Japan) Production Bases of Asahi Kasei

Lithium Battery Separator Capacity Release of Asahi Kasei, 2004-2013

Contact Means of Battery Separator Marketing Division of Asahi Kasei

Battery Separator Output, Capacity and Capacity Utilization of Asahi Kasei, 2008-2013

Celgard's Branches Worldwide

Technical Parameters of Celgard's Battery Separator

Administrative Organization of Celgard (China)

Global Production Bases and Marketing Network of Celgard's Lithium Battery Separator

Battery Separator Output, Capacity and Capacity Utilization of Celgard, 2008-2013

Battery Separator Investment Plan of Celgard

Equity Structure of Toray Tonen

Battery Separator Output, Capacity and Capacity Utilization of Toray Tonen, 2008-2013

Business Performance of UBE, Sep.2008-FY2013/14

Operating Revenue Structure of UBE, FY2013/14

Contact Means of Battery Separator Business Division of UBE

Battery Separator (Japan) Production Bases of UBE

Battery Separator Output, Capacity and Capacity Utilization of UBE, 2008-2013

Key Subsidiaries under SKI

Battery Separator Output, Capacity and Capacity Utilization of SKI, 2009-2013

Contact Means of Battery Separator Business Division of Entek

Technical Parameters of Entek's Battery Separator

Operating Revenue Structure of Mitsubishi Chemical, FY2013/14

Global Branches of Mitsubishi Chemical

Lithium Battery Separator Manufacturing Techniques of Mitsubishi Chemical

Operating Revenue Structure of Mitsubishi Chemical, FY2013/14

Technical Performance of Lithium Battery Separator of Mitsubishi Chemical

Global Branches of Mitsubishi Chemical's Electronic Materials Division

Business Performance of W-Scope, 2010-2014

Battery Separator Marketing Regions of W-Scope, 2013

Gross Margin of W-Scope's Battery Separator, 2009-2013

Battery Separator Output, Capacity and Capacity Utilization of W-Scope, 2009-2013

Technical Parameters of GRE-P Series Separator of Xinxiang Zhongke Science and Technology (GREEN)

Technical Parameters of GRE-T Series Separator of Xinxiang Zhongke Science and Technology (GREEN)

Technical Parameters of GRE-H Series Separator of Xinxiang Zhongke Science and Technology (GREEN)

Lithium Battery Separator Output, Capacity and Capacity Utilization of Xinxiang Zhongke Science and Technology (GREEN), 2007-2013

Major Customers for Lithium Battery Cell of Shenzhen Senior Technology Material

Global Marketing Network of Shenzhen Senior Technology Material

Wet Process and Dry Process Lithium Battery Separator Micrograph of Shenzhen Senior Technology Material

Special Lithium Battery Separator Micrograph of Shenzhen Senior Technology Material

Lithium Battery Separator Investment and Production Expansion Scheme of Shenzhen Senior Technology Material

Lithium Battery Separator Output, Capacity and Capacity Utilization of Shenzhen Senior Technology Material, 2007-2013

Changes in Equity Structure of Foshan Jinhui Hi-tech Optoelectronic Material

Business Performance of Foshan Jinhui Hi-tech Optoelectronic Material, 2009-2013

Technical Parameters of Ordinary Lithium Battery Separator of Foshan Jinhui Hi-tech Optoelectronic Material

Technical Parameters of Strengthened Lithium Battery Separator of Foshan Jinhui Hi-tech Optoelectronic Material

Lithium Battery Separator Investment and Production Expansion Plan of Foshan Jinhui Hi-tech Optoelectronic Material

Lithium Battery Separator Output, Capacity and Capacity Utilization of Foshan Jinhui Hi-tech Optoelectronic Material, 2008-2013

Business Performance of Cangzhou Mingzhu Plastic, 2009-2014Q1

Operating Revenue Structure of Cangzhou Mingzhu Plastic, 2007-2013

Gross Margin of Main Business of Cangzhou Mingzhu Plastic, 2007-2013

Technical Parameters of Lithium Battery Separator of Cangzhou Mingzhu Plastic

Lithium Battery Separator Production & Sales and Revenue of Cangzhou Mingzhu Plastic, 2012-2013

Lithium Battery Separator Investment and Production Expansion Scheme of Cangzhou Mingzhu Plastic

Lithium Battery Separator Output, Capacity and Capacity Utilization of Cangzhou Mingzhu Plastic, 2012-2016

Electric Vehicle Sales Volume of BYD, 2013-Mar.2014

Lithium Battery Capacity and Separator Demand of BYD Electric Vehicle

Power Lithium Battery and Separator Demand of BYD, 2012-2016E

Lithium Battery Separator Revenue and Net Income of Cangzhou Mingzhu Plastic,

2012-2016

Equity Structure of Jiangxi Xian Cai Nanofibers Technology

Operation of Jiangxi Xian Cai Nanofibers Technology, 2012-2013

Technical Parameters of Polyimide (PI) Nano Battery Separator of Jiangxi Xian Cai Nanofibers Technology

Polyimide (PI) Nano Battery Separator Investment Plan of Jiangxi Xian Cai Nanofibers Technology

Lithium Battery Separator Investment Plan of Sinoma Science & Technology

Lithium Battery Separator Investment Plan of Zhejiang Great Southeast

Lithium Battery Separator Investment Plan of Jiangsu Jiujiujiu Technology

Technical Parameters of Lithium Battery Separator Technology of Nantong Tianfeng New Electronic Materials

Development Trend of Li-ion Battery

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