

Advanced Materials in Electric, Fuel Cell and Hybrid Automotive Batteries

<https://marketpublishers.com/r/AA908DC5705EN.html>

Date: September 2019

Pages: 201

Price: US\$ 2,750.00 (Single User License)

ID: AA908DC5705EN

Abstracts

Summary

The Summary Table and Summary Figure break down the market into two major segments: advanced materials and other materials. There are many types of batteries and fuel cells available in the market. However, today most electric vehicle batteries have one of the below four systems -

Lead-acid battery.

Nickel metal hydride battery.

Lithium-ion (including lithium polymer) battery.

Proton exchange membrane (PEM) fuel cells (PEMFCs).

Materials used in automotive lithium-ion battery and PEMFCs will have very strong growth in the next five years. They are considered as advanced materials in this report. On the other hand, materials used in automotive lead-acid batteries and nickel metal hydride batteries will have slow growth in the next five years. They are included in the segment "other materials."

Reasons for Doing This Study

The battery and fuel cell industries are experiencing fast expansion. Battery and fuel cell demand have revitalized a number of raw material markets, and many material

suppliers are counting on new battery and fuel cell markets to drive growth.

This study takes an approach to these opportunities by summarizing markets for individual battery and fuel cell types and components and then profiling the markets for the materials used in the automotive markets. An extensive set of company profiles provides competitive intelligence for existing battery and fuel cell material providers and also describes sources for these battery and fuel cell makers.

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ADMIRALTY RESOURCES
AKZONOBEL
ALBEMARLE CORP. (ROCKWOOD LITHIUM)
ALLEGHENY TECHNOLOGIES INC.
AMERICAN UNION GROUP INC.
AMPEREX TECHNOLOGY LTD.
ANGLO PLATINUM LTD.
APNANO
AQUARIUS PLATINUM PTY LTD. (SIBANYE GOLD LTD.)
ARKEMA

ASBURY CARBONS
ASHBURTON VENTURES INC.
ASHLAND SPECIALTY INGREDIENTS
AVALON ADVANCED MATERIALS INC. (AVALON RARE METALS INC.)
BASF CORP.
BTR NEW ENERGY MATERIALS INC.
CABOT CORP.
CHAO ZHOU THREE-CIRCLE (GROUP) CO. LTD.
COORSTEK (COORSTEK ENGINEERED)
DEXMET CORP.
ELECTROCHEM INC.
ENGINEERED FIBERS TECHNOLOGY LLC (FIBERS TECHNOLOGY)
EUROPEAN LITHIUM
FERRO CORP.
FMC CORP.
FRONTIER CARBON CORP.
FUELCELLMATERIALS.COM DIVISION (NEXCERIS)
FUSITE CORP. (DIVISION OF EMERSON ELECTRIC CO.)
GALAXY RESOURCES LTD.
GFS CHEMICALS INC.
H.C. STARCK GMBH
HITACHI CHEMICAL
HONJO CHEMICAL CORP.
HORIZON FUEL CELL TECHNOLOGIES
HOSOKAWA MICRON CORP.
HUNAN XIANGTAN ELECTROCHEMICAL GROUP
IMERYS GRAPHITE & CARBON
INTERNATIONAL LITHIUM CORP. (INTERNATIONAL LITHIUM CORP./GANFENG LITHIUM CO. LTD./JIANGXI GANFENG LITHIUM)
JIANZHONG LITHIUM
JOHNSON MATTHEY INC.
J.R. SIMPLOT CO.
LITHIUM CORP.
LITHIUM EXPLORATION GROUP (LITHIUM EXPLORATION GROUP INC.)
MATERIALS AND ELECTROCHEMICAL RESEARCH CORP.
MITSUBISHI CHEMICAL CORP. (MITSUBISHI RAYON CO. LTD.)
MITSUI & CO. USA
MPHASE TECHNOLOGIES
NANO-C INC.

NANOCYL S.A.
NEDSTACK FUEL CELL TECHNOLOGY
NEMASKA LITHIUM
NEO PERFORMANCE MATERIALS (MOLYCORP)
NGIMAT CO.
NIPPON CARBON CO. LTD.
NIPPON SHOKUBAI CO. LTD.
NISSHINBO INDUSTRIES INC. (NISSHINBO CHEMICAL)
PHILLIPS 66
PORVAIR FUEL CELL TECHNOLOGY
PRED MATERIALS
PRINCE MINERALS INC.
RAYMOR INDUSTRIES INC.
READE ADVANCED MATERIALS
RIO TINTO BORAX
ROCK TECH LITHIUM (ROCK TECH LITHIUM INC.)
SGL GROUP - THE CARBON COMPANY
SHANGHAI AEROSPACE POWER TECHNOLOGY CO. LTD.
SHANSHAN TECHNOLOGY
SHEPHERD CHEMICAL CO.
SHOWA DENKO K.K. (SDK)
SIGMA-ALDRICH
SOLVAY PERFORMANCE CHEMICALS
SQM (SOCIEDAD QUIMICA Y MINERA)
SUMITOMO METAL MINING CO. LTD.
SUPERIOR GRAPHITE CO.
THERMO FISHER SCIENTIFIC (ALFA AESAR)
THOMAS SWAN & CO. LTD.
TIANQI GROUP (TALISON LITHIUM LTD.)
TALISON LITHIUM
TORAY INDUSTRIES AMERICA INC. (TAM)
TOSOH ADVANCED CERAMICS DIVISION (TOSOH CORP. CERAMICS DIVISION)
TOTO LTD.
TRONOX INC. PIGMENT DIVISION
UMICORE
XIAMEN TUNGSTEN CO. LTD.
ZHEJIANG HUAYOU COBALT CO. LTD. (ZHEJIANG HUAYOU COBALT)
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