

Advanced Materials in Electric, Fuel Cell and Hybrid Automotive Batteries

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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.

Contents

CHAPTER 1 INTRODUCTION

Study Goals and Objectives
Reasons for Doing This Study
Scope of Report
Information Sources
Methodology
Geographic Breakdown
Analyst's Credentials
Related BCC Research Reports

CHAPTER 2 SUMMARY AND HIGHLIGHTS

Summary
Highlights
Largest Markets
Fastest-Growing Markets

CHAPTER 3 SALES OF AUTOMOTIVE BATTERIES AND FUEL CELLS AND MATERIALS USE

Types of Power Sources
Battery Power Sources
Fuel Cell Power Sources
Hybrid Power Sources
Electric Vehicle Batteries and Fuel Cells and Materials
Electric Passenger Vehicles
Low-Velocity Electric Vehicles
Electric Buses
Commercial and Industrial Electric Vehicles

CHAPTER 4 GLOBAL MARKET FOR AUTOMOTIVE BATTERY AND FUEL CELL MATERIALS

Global Market for Materials Used in Automotive Lead-Acid Batteries
Global Market for Materials Used in Automotive Nickel Metal Hydride Batteries
Global Market for Materials Used in Automotive Lithium-ion Batteries

Global Market for Materials Used in Automotive Fuel Cells

Global Market for Automotive Proton Exchange Membrane Fuel Cell Materials

Global Market for Materials Used in Automotive Phosphoric Acid Fuel Cells

CHAPTER 5 GLOBAL MARKET FOR ADVANCED MATERIALS IN AUTOMOTIVE BATTERIES AND FUEL CELLS BY MATERIAL

Lithium Compounds

Lithium

Cobalt

Manganese Dioxide

Halogens

Nickel and Iron

Carbon Compounds

Carbon Compound Market by User

Carbon Compound Market by Product

Platinum Group

Rare Earth Compounds

Organic Compounds

Sodium and Potassium Compounds

Titanium and Zirconium Compounds

Silicon Oxide Compounds

CHAPTER 6 GLOBAL MARKET BY END USERS AND MARKET TRENDS AND STRATEGIES

Global Market for Advanced Materials Used in Automotive Batteries and Fuel Cells by Users

Market Trends and Strategies

Entrants to the Market

Partnership with Car Makers and Advanced Material Suppliers

Restructure Battery Business

Move to Upstream

China's Subsidy Policy

CHAPTER 7 ADVANCED MATERIAL MARKETS FOR AUTOMOTIVE BATTERIES/FUEL CELLS BY REGION

Chinese Market for Advanced Materials Used in Automotive Batteries and Fuel Cells

Lithium Compounds
Carbon Compounds
Asia-Pacific Market for Advanced Materials Used in Automotive Batteries and Fuel Cells
Lithium Compounds
Carbon Compounds
North American Market for Advanced Materials Used in Automotive Batteries and Fuel Cells
Lithium Compounds
Carbon Compounds
European Market for Advanced Materials Used in Automotive Batteries and Fuel Cells
Lithium Compounds
Carbon Compounds
Advanced Materials Used in Automotive Batteries and Fuel Cells in the Rest of the World
Lithium Compounds
Carbon Compounds

CHAPTER 8 PATENT REVIEW

Patent Review by Year
Patent Review by Application
Patent Review by Country
Patent Review by Company

CHAPTER 9 COMPANY PROFILES

ABERDEEN INTERNATIONAL INC.
ACAL ENERGY LTD.
ADMAT INC.
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)
ZOLTEK COMMERCIAL CARBON FIBER

CHAPTER 10 APPENDIX A: AUTOMOTIVE LITHIUM-ION BATTERY COMPANIES

CHAPTER 11 APPENDIX B: FUEL CELL COMPANIES

CHAPTER 12 APPENDIX C: ABBREVIATIONS AND ACRONYMS

List Of Tables

LIST OF TABLES

Summary Table : Global Market for Materials Used in Automotive Batteries and Fuel Cells, by Type, Through 2023

Table 1 : Global Market Volume for Automotive Batteries and Fuel Cells, by Vehicle Type, Through 2023

Table 2 : Global Market Volume for Automotive Batteries and Fuel Cells, by Vehicle Type, Through 2023

Table 3 : Global Market Volume for Automotive Batteries and Fuel Cells for Electric Passenger Vehicles, by Product Type, Through 2023

Table 4 : Global Market Volume for Automotive Batteries and Fuel Cells for Electric Passenger Vehicles, by Product Type, Through 2023

Table 5 : List of Electric Passenger Cars and Makers

Table 6 : List of Electric Microcars and Makers

Table 7 : List of Electric Pickup Trucks and Makers

Table 8 : List of Electric SUVs and Makers

Table 9 : Global Market Volume for Automotive Batteries and Fuel Cells for Low-Velocity Electric Vehicles, by Product Type, Through 2023

Table 10 : Global Market Volume for Automotive Batteries and Fuel Cells for Low-Velocity Electric Vehicles, by Product Type, Through 2023

Table 11 : List of Low-Velocity Electric Vehicles and Makers

Table 12 : Global Market Volume for Automotive Batteries and Fuel Cells for Electric Buses, by Product Type, Through 2023

Table 13 : Global Market Volume for Automotive Batteries and Fuel Cells for Electric Buses, by Product Type, Through 2023

Table 14 : List of Electric Buses and Makers

Table 15 : Global Market Volume for Automotive Batteries and Fuel Cells for Industrial/Commercial Electric Vehicles, by Product Type, Through 2023

Table 16 : Global Market Volume for Automotive Batteries and Fuel Cells for Industrial/Commercial Electric Vehicles, by Product Type, Through 2023

Table 17 : List of Electric Trucks and Makers

Table 18 : List of Electric Vans and Makers

Table 19 : Global Market for Advanced Materials Used in Automotive Batteries and Fuel Cells, by Power Source, Through 2023

Table 20 : Global Market Share for Materials Used in Automotive Batteries and Fuel Cells, by Power Source, 2017

Table 21 : Global Market Volume for Materials Used in Automotive Batteries and Fuel

Cells, by Power Source, Through 2023

Table 22 : Global Market for Materials Used in Automotive Lead-Acid Batteries, by Type, Through 2023

Table 23 : Global Market Volume for Materials Used in Automotive Lead-Acid Batteries, by Type, Through 2023

Table 24 : Global Market for Materials Used in Automotive Nickel Metal Hydride Batteries, by Type, Through 2023

Table 25 : Global Market Volume for Materials Used in Automotive Nickel Metal Hydride Batteries, by Type, Through 2023

Table 26 : Global Market for Materials Used in Automotive Lithium-ion Batteries, by Type, Through 2023

Table 27 : Global Market Volume for Materials Used in Automotive Lithium-ion Batteries, by Type, Through 2023

Table 28 : Global Market for Materials Used in Automotive Fuel Cells, by Type, Through 2023

Table 29 : Global Market Volume for Materials Used in Automotive Fuel Cells, by Type, Through 2023

Table 30 : Global Market for Materials Used in Automotive Proton Exchange Membrane Fuel Cells, by Type, Through 2023

Table 31 : Global Market Volume for Materials Used in Automotive Proton Exchange Membrane Fuel Cells, by Type, Through 2023

Table 32 : Global Market for Materials Used Automotive Phosphoric Acid Fuel Cells, by Type, Through 2023

Table 33 : Global Market Volume for Materials Used Automotive Phosphoric Acid Fuel Cells, by Type, Through 2023

Table 34 : Global Market for Advanced Materials Used in Automotive Batteries and Fuel Cells, by Material Type, Through 2023

Table 35 : Global Market Share for Advanced Materials Used in Automotive Batteries and Fuel Cells, by Material Type, 2017

Table 36 : Global Market Volume for Advanced Materials Used in Automotive Batteries and Fuel Cells, by Material Type, Through 2023

Table 37 : Lithium Compounds Used in Automotive Lithium Batteries and Fuel Cells

Table 38 : Global Market for Cobalt Lithium Compounds Used in Automotive Batteries and Fuel Cells, by Material Type, Through 2023

Table 39 : Global Market Volume for Cobalt Lithium Compounds Used in Automotive Batteries and Fuel Cells, by Material Type, Through 2023

Table 40 : Global Market for Noncobalt Lithium Compounds Used in Automotive Batteries and Fuel Cells, by Material Type, Through 2023

Table 41 : Global Market Volume for Noncobalt Lithium Compounds Used in Automotive

Batteries and Fuel Cells, by Material Type, Through 2023

Table 42 : Lithium Compounds Companies

Table 43 : Lithium Producers

Table 44 : Cobalt Compounds Used in Automotive Lithium Batteries and Fuel Cells

Table 45 : Manganese Dioxide Used in Automotive Lithium Batteries and Fuel Cells

Table 46 : Manganese Dioxide Companies

Table 47 : Halogens Used in Automotive Lithium Batteries and Fuel Cells

Table 48 : Nickel and Iron Used in Automotive Lithium Batteries and Fuel Cells

Table 49 : List of Carbon Compounds used in Automotive Lithium Batteries and Fuel Cells

Table 50 : List of Fullerene Companies

Table 51 : List of Graphite Companies

Table 52 : List of Other Carbon Compound Companies

Table 53 : Global Market for Carbon Compounds Used in Automotive Batteries and Fuel Cells, by User, Through 2023

Table 54 : Global Market Volume for Carbon Compounds Used in Automotive Batteries and Fuel Cells, by User, Through 2023

Table 55 : Global Market for Advanced Materials Used in Automotive Batteries and Fuel Cells, by Product Type, Through 2023

Table 56 : Global Market Volume for Advanced Materials Used in Automotive Batteries and Fuel Cells, by Product Type, Through 2023

Table 57 : Global Market for Fullerene Used in Automotive Batteries and Fuel Cells, by Application, Through 2023

Table 58 : Global Market Volume for Fullerene Used in Automotive Batteries and Fuel Cells, by Application, Through 2023

Table 59 : Global Market for Graphite Used in Automotive Batteries and Fuel Cells, by Application, Through 2023

Table 60 : Global Market Volume for Graphite Used in Automotive Batteries and Fuel Cells, by Application, Through 2023

Table 61 : Global Market for Other Carbon Materials Used in Automotive Batteries and Fuel Cells, by Application, Through 2023

Table 62 : Global Market Volume for Other Carbon Materials Used in Automotive Batteries and Fuel Cells, by Application, Through 2023

Table 63 : List of Platinum Group Used in Automotive Lithium Batteries and Fuel Cells

Table 64 : List of Organic Compound Companies

Table 65 : List of Rare Earth Compounds Used in Automotive Lithium Batteries and Fuel Cells

Table 66 : List of Rare Earth Compound Companies

Table 67 : List of Organic Compounds Used in Automotive Lithium Batteries and Fuel Cells

Cells

Table 68 : List of Organic Compound Companies

Table 69 : List of Sodium and Potassium Compounds Used in Automotive Lithium Batteries and Fuel Cells

Table 70 : List of Sodium and Potassium Compound Companies

Table 71 : List of Titanium and Zirconium Compounds Used in Automotive Lithium Batteries and Fuel Cells

Table 72 : List of Titanium Compound Companies

Table 73 : List of Zirconium Compound Companies

Table 74 : List of Silicon Oxide Compounds Used in Automotive Lithium Batteries and Fuel Cells

Table 75 : List of Silicas and Silicon Compound Companies

Table 76 : Global Market for Advanced Materials Used in Automotive Batteries and Fuel Cells, by Company, 2017

Table 77 : Sales and Shares of Advanced Material Suppliers to CATL, by Company, 2017

Table 78 : Electric Vehicle Type, Range and Subsidy, by the Chinese Government

Table 79 : Electric Vehicle Energy Density Adjustment Factor, by the Chinese Government

Table 80 : EV Energy Consumption Adjustment Factor by the Chinese Government

Table 81 : Calculation Method of Y

Table 82 : Global Market for Advanced Materials Used in Automotive Batteries and Fuel Cells, by Region, Through 2023

Table 83 : Global Market Share for Advanced Materials Used in Automotive Batteries and Fuel Cells, by Region, 2017

Table 84 : Global Market Volume for Advanced Materials Used in Automotive Batteries and Fuel Cells, by Region, Through 2023

Table 85 : Chinese Market for Advanced Materials Used in Automotive Batteries and Fuel Cells, by Materials, Through 2023

Table 86 : Chinese Market Volume for Advanced Materials Used in Automotive Batteries and Fuel Cells, by Materials, Through 2023

Table 87 : Chinese Market for Cobalt Lithium Compounds Used in Automotive Batteries and Fuel Cells, by Material Type, Through 2023

Table 88 : Chinese Market Volume for Cobalt Lithium Compounds Used in Automotive Batteries and Fuel Cells, by Material Type, Through 2023

Table 89 : Chinese Market for Noncobalt Lithium Compounds Used in Automotive Batteries and Fuel Cells, by Material Type, Through 2023

Table 90 : Chinese Market Volume for Noncobalt Lithium Compounds Used in Automotive Batteries and Fuel Cells, by Material Type, Through 2023

Table 91 : Chinese Market for Carbon Compounds Used in Automotive Batteries and Fuel Cells, by User, Through 2023

Table 92 : Chinese Market Volume for Carbon Compounds Used in Automotive Batteries and Fuel Cells, by User, Through 2023

Table 93 : Chinese Market for Advanced Materials Used in Automotive Batteries and Fuel Cells, by Product Type, Through 2023

Table 94 : Chinese Market Volume for Advanced Materials Used in Automotive Batteries and Fuel Cells, by Product Type, Through 2023

Table 95 : Chinese Market for Fullerene Used in Automotive Batteries and Fuel Cells, by Application, Through 2023

Table 96 : Chinese Market Volume for Fullerene Used in Automotive Batteries and Fuel Cells, by Application, Through 2023

Table 97 : Chinese Market for Graphite Used in Automotive Batteries and Fuel Cells, by Application, Through 2023

Table 98 : Chinese Market Volume for Graphite Used in Automotive Batteries and Fuel Cells, by Application, Through 2023

Table 99 : Chinese Market for Low-grade Carbon Used in Automotive Batteries and Fuel Cells, by Application, Through 2023

Table 100 : Chinese Market Volume for Low-grade Carbon Used in Automotive Batteries and Fuel Cells, by Application, Through 2023

Table 101 : Asia-Pacific Market for Advanced Materials Used in Automotive Batteries and Fuel Cells, by Materials, Through 2023

Table 102 : Asia-Pacific Market Volume for Advanced Materials Used in Automotive Batteries and Fuel Cells, by Materials, Through 2023

Table 103 : Asia-Pacific Market for Cobalt Lithium Compounds Used in Automotive Batteries and Fuel Cells, by Material Type, Through 2023

Table 104 : Asia-Pacific Market Volume for Cobalt Lithium Compounds Used in Automotive Batteries and Fuel Cells, by Material Type, Through 2023

Table 105 : Asia-Pacific Market for Noncobalt Lithium Compounds Used in Automotive Batteries and Fuel Cells, by Material Type, Through 2023

Table 106 : Asia-Pacific Market Volume for Noncobalt Lithium Compounds Used in Automotive Batteries and Fuel Cells, by Material Type, Through 2023

Table 107 : Asia-Pacific Market for Carbon Compounds Used in Automotive Batteries and Fuel Cells, by User, Through 2023

Table 108 : Asia-Pacific Market Volume for Carbon Compounds Used in Automotive Batteries and Fuel Cells, by User, Through 2023

Table 109 : Asia-Pacific Market for Advanced Materials Used in Automotive Batteries and Fuel Cells, by Product Type, Through 2023

Table 110 : Asia-Pacific Market Volume for Advanced Materials Used in Automotive

Batteries and Fuel Cells, by Product Type, Through 2023

Table 111 : Asia-Pacific Market for Fullerenes Used in Automotive Batteries and Fuel Cells, by Application, Through 2023

Table 112 : Asia-Pacific Market Volume for Fullerenes Used in Automotive Batteries and Fuel Cells, by Application, Through 2023

Table 113 : Asia-Pacific Market for Graphite Used in Automotive Batteries and Fuel Cells, by Application, Through 2023

Table 114 : Asia-Pacific Market Volume for Graphite Used in Automotive Batteries and Fuel Cells, by Application, Through 2023

Table 115 : Asia-Pacific Market for Low-grade Carbon Used in Automotive Batteries and Fuel Cells, by Application, Through 2023

Table 116 : Asia-Pacific Market Volume for Low-grade Carbon Used in Automotive Batteries and Fuel Cells, by Application, Through 2023

Table 117 : North American Market for Advanced Materials Used in Automotive Batteries and Fuel Cells, by Materials, Through 2023

Table 118 : North American Market Volume for Advanced Materials Used in Automotive Batteries and Fuel Cells, by Materials, Through 2023

Table 119 : North American Market for Cobalt Lithium Compounds Used in Automotive Batteries and Fuel Cells, by Material Type, Through 2023

Table 120 : North American Market Volume for Cobalt Lithium Compounds Used in Automotive Batteries and Fuel Cells, by Material Type, Through 2023

Table 121 : North American Market for Noncobalt Lithium Compounds Used in Automotive Batteries and Fuel Cells, by Material Type, Through 2023

Table 122 : North American Market Volume for Noncobalt Lithium Compounds Used in Automotive Batteries and Fuel Cells, by Material Type, Through 2023

Table 123 : North American Market for Carbon Compounds Used in Automotive Batteries and Fuel Cells, by User, Through 2023

Table 124 : North American Market Volume for Carbon Compounds Used in Automotive Batteries and Fuel Cells, by User, Through 2023

Table 125 : North American Market for Advanced Materials Used in Automotive Batteries and Fuel Cells, by Product Type, Through 2023

Table 126 : North American Market Volume for Advanced Materials Used in Automotive Batteries and Fuel Cells, by Product Type, Through 2023

Table 127 : North American Market for Fullerenes Used in Automotive Batteries and Fuel Cells, by Application, Through 2023

Table 128 : North American Market Volume for Fullerenes Used in Automotive Batteries and Fuel Cells, by Application, Through 2023

Table 129 : North American Market for Graphite Used in Automotive Batteries and Fuel Cells, by Application, Through 2023

Table 130 : North American Market Volume for Graphite Used in Automotive Batteries and Fuel Cells, by Application, Through 2023

Table 131 : North American Market for Other Carbon Materials Used in Automotive Batteries and Fuel Cells, by Application, Through 2023

Table 132 : North American Market Volume for Other Carbon Materials Used in Automotive Batteries and Fuel Cells, by Application, Through 2023

Table 133 : European Market for Advanced Materials Used in Automotive Batteries and Fuel Cells, by Materials, Through 2023

Table 134 : European Market Volume for Advanced Materials Used in Automotive Batteries and Fuel Cells, by Materials, Through 2023

Table 135 : European Market for Cobalt Lithium Compounds Used in Automotive Batteries and Fuel Cells, by Material Type, Through 2023

Table 136 : European Market Volume for Cobalt Lithium Compounds Used in Automotive Batteries and Fuel Cells, by Material Type, Through 2023

Table 137 : European Market for Noncobalt Lithium Compounds Used in Automotive Batteries and Fuel Cells, by Material Type, Through 2023

Table 138 : European Market Volume for Noncobalt Lithium Compounds Used in Automotive Batteries and Fuel Cells, by Material Type, Through 2023

Table 139 : European Market for Carbon Compounds Used in Automotive Batteries and Fuel Cells, by User, Through 2023

Table 140 : European Market Volume for Carbon Compounds Used in Automotive Batteries and Fuel Cells, by User, Through 2023

Table 141 : European Market for Advanced Materials Used in Automotive Batteries and Fuel Cells, by Product Type, Through 2023

Table 142 : European Market Volume for Advanced Materials Used in Automotive Batteries and Fuel Cells, by Product Type, Through 2023

Table 143 : European Market for Fullerene Used in Automotive Batteries and Fuel Cells, by Application, Through 2023

Table 144 : European Market Volume for Fullerene Used in Automotive Batteries and Fuel Cells, by Application, Through 2023

Table 145 : European Market for Graphite Used in Automotive Batteries and Fuel Cells, by Application, Through 2023

Table 146 : European Market Volume for Graphite Used in Automotive Batteries and Fuel Cells, by Application, Through 2023

Table 147 : European Market for Low-grade Carbon Used in Automotive Batteries and Fuel Cells, by Application, Through 2023

Table 148 : European Market Volume for Low-grade Carbon Used in Automotive Batteries and Fuel Cells, by Application, Through 2023

Table 149 : ROW Market for Advanced Materials Used in Automotive Batteries and Fuel

Cells, by Materials, Through 2023

Table 150 : ROW Market Volume for Advanced Materials Used in Automotive Batteries and Fuel Cells, by Materials, Through 2023

Table 151 : ROW Market for Cobalt Lithium Compounds Used in Automotive Batteries and Fuel Cells, by Material Type, Through 2023

Table 152 : ROW Market Volume for Cobalt Lithium Compounds Used in Automotive Batteries and Fuel Cells, by Material Type, Through 2023

Table 153 : ROW Market for Noncobalt Lithium Compounds Used in Automotive Batteries and Fuel Cells, by Material Type, Through 2023

Table 154 : ROW Market Volume for Noncobalt Lithium Compounds Used in Automotive Batteries and Fuel Cells, by Material Type, Through 2023

Table 155 : ROW Market for Carbon Compounds Used in Automotive Batteries and Fuel Cells, by User, Through 2023

Table 156 : ROW Market Volume for Carbon Compounds Used in Automotive Batteries and Fuel Cells, by User, Through 2023

Table 157 : ROW Market for Advanced Materials Used in Automotive Batteries and Fuel Cells, by Product Type, Through 2023

Table 158 : ROW Market Volume for Advanced Materials Used in Automotive Batteries and Fuel Cells, by Product Type, Through 2023

Table 159 : ROW Market for Fullerenes Used in Automotive Batteries and Fuel Cells, by Application, Through 2023

Table 160 : ROW Market Volume for Fullerenes Used in Automotive Batteries and Fuel Cells, by Application, Through 2023

Table 161 : ROW Market for Graphite Used in Automotive Batteries and Fuel Cells, by Application, Through 2023

Table 162 : ROW Market Volume for Graphite Used in Automotive Batteries and Fuel Cells, by Application, Through 2023

Table 163 : ROW Market for Other Carbon Materials Used in Automotive Batteries and Fuel Cells, by Application, Through 2023

Table 164 : ROW Market Volume for Other Carbon Materials Used in Automotive Batteries and Fuel Cells, by Application, Through 2023

Table 165 : Patent Review of Advanced Materials Used in Automotive Batteries and Fuel Cells, 2016-2018

Table 166 : Patent Share for Advanced Materials Used in Automotive Batteries and Fuel Cells, 2016-2018

Table 167 : Patent Share for Advanced Materials Used in Automotive Batteries and Fuel Cells, by Application, 2016-2018

Table 168 : Patent Share for Advanced Materials Used in Automotive Batteries and Fuel Cells, by Country, 2013-2018

Table 169 : Patent Share for Advanced Materials Used in Automotive Batteries and Fuel Cells, by Company, 2013-2018

Table 170 : Abbreviations and Acronyms

List Of Figures

LIST OF FIGURES

Summary Figure : Global Market for Materials Used in Automotive Batteries and Fuel Cells, by Type, 2017–2023

Figure 1 : Global Market for Advanced Materials Used in Automotive Batteries and Fuel Cells, by Power Source, 2017–2023

Figure 2 : Global Market Share for Advanced Materials Used in Automotive Batteries and Fuel Cells, by Power Source, 2017

Figure 3 : Global Market for Advanced Materials Used in Automotive Batteries and Fuel Cells, by Material Type, 2017-2023

Figure 4 : Global Market Share for Advanced Materials Used in Automotive Batteries and Fuel Cells, by Material Type, 2017

Figure 5 : Global Market Share for Advanced Materials Used in Automotive Batteries and Fuel Cells, by Company, 2017

Figure 6 : Global Market for Advanced Materials Used in Automotive Batteries and Fuel Cells, by Region, 2017-2023

Figure 7 : Global Market Share for Advanced Materials Used in Automotive Batteries and Fuel Cells, by Region, 2017

Figure 8 : Patent Share for Advanced Materials Used in Automotive Batteries and Fuel Cells, 2016-2018

Figure 9 : Patent Share for Advanced Materials Used in Automotive Batteries and Fuel Cells, by Application, 2016-2018

Figure 10 : Patent Share for Advanced Materials Used in Automotive Batteries and Fuel Cells, by Country, 2013-2018

Figure 11 : Patent Share for Advanced Materials Used in Automotive Batteries and Fuel Cells, by Company, 2013-2018

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