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Global Flame-Retardant EV Battery Case Material Supply, Demand and Key Producers, 2026-2032

https://marketpublishers.com/r/G4D6CEC14F0FEN.html
Date: February 2026
Pages: 115
Price: US$ 4,480.00 (Single User License)
ID: G4D6CEC14F0FEN

Abstracts

The global Flame-Retardant EV Battery Case Material market size is expected to reach $ 92.97 million by 2032, rising at a market growth of 10.5% CAGR during the forecast period (2026-2032).

Flame-Retardant EV Battery Case Material refers to non-metal material systems used in electric vehicle designed to delay ignition and slow flame development under extreme thermal conditions. A key advantage of these materials is their ability to extend the time to ignition and reduce the rate of flame propagation during thermal runaway or external fire exposure. By slowing the onset and spread of combustion, flame-retardant battery case materials provide additional response time for thermal management systems, safety interventions, and occupant evacuation. In 2025, production reached 3,207 tons with an average price of 14,640 USD/ton.The capacity utilization rate in the flame-retardant EV battery case material industry remained at 55%, and the average gross profit margin was approximately 20.3%. The upstream of flame-retardant EV battery case materials is centered on resin systems, fillers, and reinforcing fibers. The core matrix materials include thermosetting resins such as unsaturated polyester resins and vinyl ester resins, supplied by AOC, INEOS Composites, Ashland, and Eternal Materials, which provide crosslinking performance and thermal stability during compression molding. Fillers including calcium carbonate, aluminum trihydrate, glass microspheres, and clay are critical for cost control and flame-retardant efficiency, with key suppliers such as Huber Engineered Materials, Chalco, Nabaltec AG, and Hindalco Industries. Reinforcing fibers, mainly glass fiber and carbon fiber, determine mechanical strength and rigidity, with major suppliers including China Jushi, Owens Corning, Taishan Fiberglass, CPIC, and Johns Manville. The midstream focuses on formulation design, compounding, and molding processes that convert raw materials into flame-retardant battery case components. Key activities include resin–filler ratio optimization,

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fiber dispersion control, flame-retardant system balancing, and rheological tuning to ensure stable compression molding or thermoplastic forming. Manufacturers in this stage integrate mechanical strength, thermal resistance, flame retardancy, and dimensional stability into a single material system, while also meeting automotive requirements for lightweighting, consistency, and mass-production efficiency. Downstream applications of flame-retardant EV battery case materials are primarily concentrated in battery enclosure and battery cover. These materials are adopted by leading automotive OEMs including Volkswagen Group, General Motors, Hyundai Motor Group, and Toyota, where high flame resistance, structural integrity, and crash safety are mandatory.

The continuous growth of global EV production is a fundamental driver for flame-retardant EV battery case materials. As EV output increases year by year, the total number of battery packs installed in vehicles rises accordingly, which directly enlarges the addressable base for battery safety–related materials. Even if the penetration rate of flame-retardant battery case materials remains relatively low, higher vehicle volumes translate into growing absolute demand. In addition, higher production volumes increase the exposure of OEMs to large-scale quality and safety risks. A single safety incident can affect a much larger vehicle population, amplifying potential recall costs and reputational damage. This scale effect encourages manufacturers to reassess safety margins at the material level, including the role of flame-retardant materials in battery cases. Regulatory attention to EV battery safety is intensifying, providing a strong policy-driven driver for flame-retardant battery case materials. Governments and regulatory bodies are updating safety standards to address fire exposure, thermal runaway behavior, and post-incident containment. While regulations may not mandate specific materials, they raise performance expectations for battery systems as a whole. This indirectly increases scrutiny on battery case materials and encourages OEMs to adopt solutions that improve compliance margins. As regulatory requirements evolve, material choices are increasingly influenced by their ability to support certification and reduce approval risk. For manufacturers, selecting materials with proven flame-retardant behavior can simplify regulatory discussions and reduce uncertainty during homologation. Over time, tighter safety frameworks reinforce demand for materials that contribute to meeting or exceeding regulatory expectations at the system level.

This report studies the global Flame-Retardant EV Battery Case Material production, demand, key manufacturers, and key regions.

This report is a detailed and comprehensive analysis of the world market for Flame-Retardant EV Battery Case Material and provides market size (US$ million) and Year-

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over-Year (YoY) Growth, considering 2025 as the base year. This report explores demand trends and competition, as well as details the characteristics of Flame-Retardant EV Battery Case Material that contribute to its increasing demand across many markets.

Highlights and key features of the study

Global Flame-Retardant EV Battery Case Material total production and demand, 2021-2032, (Tons)
Global Flame-Retardant EV Battery Case Material total production value, 2021-2032, (USD Million)
Global Flame-Retardant EV Battery Case Material production by region & country, production, value, CAGR, 2021-2032, (USD Million) & (Tons), (based on production site)
Global Flame-Retardant EV Battery Case Material consumption by region & country, CAGR, 2021-2032 & (Tons)
U.S. VS China: Flame-Retardant EV Battery Case Material domestic production, consumption, key domestic manufacturers and share
Global Flame-Retardant EV Battery Case Material production by manufacturer, production, price, value and market share 2021-2026, (USD Million) & (Tons)
Global Flame-Retardant EV Battery Case Material production by Type, production, value, CAGR, 2021-2032, (USD Million) & (Tons)
Global Flame-Retardant EV Battery Case Material production by Application, production, value, CAGR, 2021-2032, (USD Million) & (Tons)

This report profiles key players in the global Flame-Retardant EV Battery Case Material market based on the following parameters - company overview, production, value, price, gross margin, product portfolio, geographical presence, and key developments. Key companies covered as a part of this study include Mitsubishi Chemical Group, Teijin, Polytec, SABIC, BASF, Mitsui Chemicals, IDI Composites, Polynt-Reichhold Group, Lanxess, etc.

This report also provides key insights about market drivers, restraints, opportunities, new product launches or approvals.

Stakeholders would have ease in decision-making through various strategy matrices used in analyzing the World Flame-Retardant EV Battery Case Material market

Detailed Segmentation:

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Each section contains quantitative market data including market by value (US$ Millions), volume (production, consumption) & (Tons) and average price (US$/Ton) by manufacturer, by Type, and by Application. Data is given for the years 2021-2032 by year with 2025 as the base year, 2026 as the estimate year, and 2027-2032 as the forecast year.

Global Flame-Retardant EV Battery Case Material Market, By Region:

- United States
- China
- Europe
- Japan
- South Korea
- ASEAN
- India
- Rest of World

Global Flame-Retardant EV Battery Case Material Market, Segmentation by Type:

- Sheet Molding Compound
- Thermoplastics
- Others

Global Flame-Retardant EV Battery Case Material Market, Segmentation by Application:

- Enclosure

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Cover

Others

Companies Profiled:

Mitsubishi Chemical Group

Teijin

Polytec

SABIC

BASF

Mitsui Chemicals

IDI Composites

Polynt-Reichhold Group

Lanxess

Key Questions Answered:

1. How big is the global Flame-Retardant EV Battery Case Material market?
2. What is the demand of the global Flame-Retardant EV Battery Case Material market?
3. What is the year over year growth of the global Flame-Retardant EV Battery Case Material market?
4. What is the production and production value of the global Flame-Retardant EV Battery Case Material market?
5. Who are the key producers in the global Flame-Retardant EV Battery Case Material market?
6. What are the growth factors driving the market demand?

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