+357 96 030922
info@marketpublishers.com

# Non-Halogenated Flame Retardants For Composites Market Forecasts to 2032 – Global Analysis By Type (Phosphorus-Based Flame Retardants, Nitrogen-Based Flame Retardants, Mineral-Based Flame Retardants, Intumescent Flame Retardants and Other Types), Resin Type, Composite Type, Formulation, Application, End User and By Geography

https://marketpublishers.com/r/ND92886F8C8AEN.html
Date: November 2025
Pages: 200
Price: US$ 4,150.00 (Single User License)
ID: ND92886F8C8AEN

## Abstracts

According to Stratistics MRC, the Global Non-Halogenated Flame Retardants For Composites Market is accounted for $889.7 million in 2025 and is expected to reach $1,574.9 million by 2032 growing at a CAGR of 8.5% during the forecast period. Non-halogenated flame retardants for composites are environmentally safer additives used to enhance fire resistance in composite materials without relying on halogen-based chemicals. These retardants are typically incorporated into thermoset and thermoplastic matrices to meet stringent fire safety standards across industries such as automotive, aerospace, electronics, and construction. They function by promoting char formation, diluting combustible gases, or absorbing heat, thereby reducing flammability. Their adoption is driven by regulatory compliance, sustainability goals, and demand for low-toxicity, high-performance flame protection solutions.

**Market Dynamics:**

Driver:

Rising use of lightweight composites in automotive and aerospace

Non-halogenated additives offer thermal stability and low toxicity, making them ideal for

+357 96 030922
info@marketpublishers.com

use in structural components, interior panels, and insulation systems. These industries prioritize weight reduction to enhance fuel efficiency and reduce emissions, while maintaining stringent fire safety standards. As electric vehicles and next-generation aircraft designs evolve, the integration of flame-retardant composites is becoming a critical design requirement. This trend is expected to accelerate as manufacturers seek sustainable and regulatory-compliant solutions.

Restraint:

Limited availability of high-performance bio-based alternatives

Many bio-derived additives struggle with thermal degradation, compatibility with composite matrices, or scalability in industrial applications. Additionally, the cost of developing and certifying new bio-based solutions remains high, limiting their commercial adoption. This challenge is particularly evident in sectors requiring high mechanical strength and long-term durability, such as aerospace and marine composites. As a result, manufacturers often rely on mineral%- %or phosphorus-based alternatives until bio-based options mature.

Opportunity:

Innovation in phosphorus-, nitrogen-, and mineral-based chemistries

Advancements in phosphorus-, nitrogen-, and mineral-based flame retardant technologies are opening new avenues for composite applications. These chemistries offer enhanced fire resistance, reduced smoke emission, and improved environmental profiles compared to halogenated counterparts. Recent developments include synergistic blends that improve char formation and thermal insulation, enabling better performance in high-stress environments. The push for REACH and RoHS compliance is also encouraging manufacturers to invest in safer, non-toxic formulations.

Threat:

Intellectual property barriers

Smaller manufacturers and regional suppliers often face licensing hurdles or limited R&D capabilities, slowing their ability to compete globally. Additionally, the complexity of integrating flame retardants into composite systems without compromising mechanical or aesthetic properties requires specialized know-how that is not widely available.

+357 96 030922
info@marketpublishers.com

These IP constraints may hinder collaborative development and delay the commercialization of next-generation, eco-friendly solutions.

Covid-19 Impact:

The COVID-19 pandemic had a dual impact on the non-halogenated flame retardants for composites market. On one hand, disruptions in global supply chains affected the availability of raw materials and delayed production schedules, particularly in sectors like aerospace and automotive. On the other hand, the crisis accelerated demand for safer, sustainable materials in healthcare infrastructure and electronics, where fire safety is paramount. Manufacturers also reevaluated sourcing strategies and began investing in regional supply resilience.

The phosphorus-based flame retardants segment is expected to be the largest during the forecast period

The phosphorus-based flame retardants segment is expected to account for the largest market share during the forecast period due to their high thermal stability, low toxicity, and compatibility with various polymer matrices. These retardants function by promoting char formation and reducing flammable gas release, making them ideal for electrical, automotive, and construction sectors. Their effectiveness in thermoset and thermoplastic composites has led to broad adoption across industries seeking halogen-free alternatives. Additionally, regulatory pressure against halogenated chemicals is accelerating the shift toward phosphorus-based solutions.

The polyester resin segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the polyester resin segment is predicted to witness the highest growth rate as these compounds are increasingly used in epoxy, polyolefin, and polyester-based composites, offering reliable performance without compromising mechanical integrity. Their versatility across multiple resin systems and ease of integration into existing manufacturing processes make them a preferred choice. Moreover, ongoing innovations in reactive and additive phosphorus formulations are expanding their applicability in high-performance composite structures.

**Region with largest share:**

During the forecast period, the North America region is expected to hold the largest

+357 96 030922
info@marketpublishers.com

market share driven by robust aerospace and automotive industries, stringent fire safety regulations, and early adoption of sustainable materials. The region benefits from advanced R&D infrastructure and strong regulatory frameworks that favor non-halogenated solutions. Key players are investing in high-performance composites for electric vehicles, defense applications, and smart buildings, further boosting market penetration.

**Region with highest CAGR:**

Over the forecast period, the North America region is anticipated to exhibit the highest CAGR fueled by rapid industrialization, infrastructure development, and expanding electronics manufacturing. Countries like China, India, and South Korea are investing heavily in transportation, renewable energy, and smart city projects, all of which require fire-safe composite materials. Government initiatives promoting environmental compliance and domestic innovation are encouraging local manufacturers to adopt non-halogenated flame retardants.

**Key players in the market**

Some of the key players in Non-Halogenated Flame Retardants For Composites Market include ICL Group, Clariant AG, Lanxess AG, Albemarle Corporation, BASF SE, Huber Engineered Materials, Thor Group, Italmatch Chemicals, Nabaltec AG, Greenchemicals Srl, ADEKA Corporation, DAIHACHI Chemical Industry Co. Ltd., Jiangsu Yoke Technology Co. Ltd., Shandong Brother Sci.&Tech Co. Ltd., Zhejiang Chitec Technology Co. Ltd., and Sibelco Group.

**Key Developments:**

In November 2025, Clariant and FUHUA launched a JV in Sichuan for halogen-free flame retardants targeting electronics and construction. The CHF 100M investment includes new production lines at Daya Bay and Cangzhou.

In November 2025, BASF commenced production at its Zhanjiang Verbund site, marking its largest single investment project. The facility will support sustainable chemical manufacturing in South China.-

In April 2025, ICL acquired Evogene’s subsidiary Lavie Bio, expanding its ag-biologicals portfolio and AI-driven MicroBoost platform. The deal strengthens ICL’s position in sustainable agriculture and microbiome-based solutions.

+357 96 030922
info@marketpublishers.com

Types Covered:

- Phosphorus-Based Flame Retardants
- Nitrogen-Based Flame Retardants
- Mineral-Based Flame Retardants
- Intumescent Flame Retardants
- Other Types

Resin Types Covered:

- Epoxy Resin
- Polyester Resin
- Vinyl Ester Resin
- Phenolic Resin
- Other Resins

Composite Types Covered:

- Glass Fiber Composites
- Carbon Fiber Composites
- Natural Fiber Composites
- Other Composite Types

Formulations Covered:

+357 96 030922
info@marketpublishers.com

- Compounds
- Masterbatches
- Liquid Formulations
- Powder Formulations
- Other Formulations

Applications Covered:

- Pultrusion
- Filament Winding
- Resin Transfer Molding
- Lay-up Process
- Other Applications

End Users Covered:

- Automotive
- Aerospace & Defense
- Construction
- Electrical & Electronics
- Textiles
- Consumer Goods
- Other End Users

+357 96 030922
info@marketpublishers.com

Regions Covered:

- North America
  - US
  - Canada
  - Mexico
- Europe
  - Germany
  - UK
  - Italy
  - France
  - Spain
  - Rest of Europe
- Asia Pacific
  - Japan
  - China
  - India
  - Australia
  - New Zealand
  - South Korea

+357 96 030922
info@marketpublishers.com

Rest of Asia Pacific

South America

Argentina

Brazil

Chile

Rest of South America

Middle East & Africa

Saudi Arabia

UAE

Qatar

South Africa

Rest of Middle East & Africa

**What our report offers:**

- Market share assessments for the regional and country-level segments
- Strategic recommendations for the new entrants
- Covers Market data for the years 2024, 2025, 2026, 2028, and 2032
- Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)
- Strategic recommendations in key business segments based on the market estimations
- Competitive landscaping mapping the key common trends
- Company profiling with detailed strategies, financials, and recent developments
- Supply chain trends mapping the latest technological advancements

**Free Customization Offerings:**

+357 96 030922
info@marketpublishers.com

All the customers of this report will be entitled to receive one of the following free customization options:

- Company Profiling
  - Comprehensive profiling of additional market players (up to 3)
  - SWOT Analysis of key players (up to 3)
- Regional Segmentation
  - Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)
- Competitive Benchmarking
  - Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

+357 96 030922
info@marketpublishers.com

# Contents

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com



## 12 KEY DEVELOPMENTS



## 13 COMPANY PROFILING

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

# List Of Tables

## LIST OF TABLES

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

Table 38 Global Non-Halogenated Flame Retardants For Composites Market Outlook, By Other End Users (2024-2032) ($MN)
Note: Tables for North America, Europe, APAC, South America, and Middle East & Africa Regions are also represented in the same manner as above.

+357 96 030922
info@marketpublishers.com

## I would like to order

Product name: Non-Halogenated Flame Retardants For Composites Market Forecasts to 2032 – Global Analysis By Type (Phosphorus-Based Flame Retardants, Nitrogen-Based Flame Retardants, Mineral-Based Flame Retardants, Intumescent Flame Retardants and Other Types), Resin Type, Composite Type, Formulation, Application, End User and By Geography

Product link: https://marketpublishers.com/r/ND92886F8C8AEN.html

Price: US$ 4,150.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:
info@marketpublishers.com

## Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page https://marketpublishers.com/r/ND92886F8C8AEN.html