

Heat Resistant Polymers Market - Global Industry Size, Share, Trends, Opportunity, and Forecast, 2018-2028 Segmented By Type (Fluoropolymers, Polybenzimidazole, Polyimides, Polyphenylene Sulfide, Polyether Ether Ketone, Others), By End User (Transportation, Electronics & Electricals, Others), By Region and Competition

https://marketpublishers.com/r/H5B867AF93EEEN.html

Date: October 2023

Pages: 188

Price: US\$ 4,900.00 (Single User License)

ID: H5B867AF93EEEN

## **Abstracts**

he Global Market for Heat Resistant Polymers has achieved a valuation of USD 17.08 billion in 2022 and is poised for substantial growth in the forecast period, projecting a Compound Annual Growth Rate (CAGR) of 6.89% through 2028. Heat resistant polymers belong to a class of temperature-resistant polymers renowned for their remarkable durability, even when exposed to temperatures exceeding 300° F. These polymers exhibit an exceptional ability to withstand high temperatures without experiencing significant physical damage or compromising their functionality. Well-known types of heat resistant polymers include polyetherimide, polyether ether ketone, polytetrafluoroethylene, polybenzimidazole, and polydicyclopentadiene. Termed 'thermoplastics,' these polymers can be molded at elevated temperatures and regain their original shape upon cooling.

Heat resistant polymers are categorized based on the type of monomer and encompass a variety of fluoropolymers, polyamides, polyphenylene sulfide, polybenzimidazole, polyether ether ketone, and other types. These versatile polymers find extensive applications across diverse industries, including automotive, aerospace and defense, electrical and electronics, industrial equipment, and the marine sector.

Several factors contribute to the growth of the global heat resistant polymers market.



Rising concerns regarding environmental hazards have led to an increased demand for these polymers, as they offer a more sustainable alternative to conventional materials. Furthermore, the trend of polymer recycling to mitigate plastic waste in the environment has further fueled market expansion. Heat-resistant polymers are particularly advantageous in terms of recyclability, as they can withstand high temperatures and be molded into new shapes for future use, reducing the need for disposal.

The aerospace and defense sector stands out as a prominent consumer of heat resistant polymers, driven by the demand for lightweight materials. The incorporation of lightweight polymers in aircraft and vehicles enhances fuel efficiency, a critical consideration in the transportation industry, especially given the rising fuel prices. However, the Global Heat Resistant Polymers Market faces challenges, including the volatility of raw material prices and the higher cost of the final products. Nonetheless, the industry continues to innovate and surmount these obstacles to meet the growing demand for heat resistant polymers.

**Key Market Drivers** 

Growing Demand of Heat Resistant Polymers in the Oil and Gas Industry

Heat-resistant polymers are widely recognized for their exceptional heat resistance, durability, and resistance to chemical degradation. These remarkable attributes make them highly sought after in the oil and gas industry, where they play a crucial role in ensuring the integrity and reliability of various applications.

With their exceptional heat resistance, heat-resistant polymers are capable of withstanding the extreme temperatures often encountered in oil and gas operations. This capability allows them to maintain their structural integrity and functionality even in the most challenging environments. Whether exposed to scorching heat or rapid temperature fluctuations, these polymers stand firm, providing a reliable solution for critical applications.

Durability is another key advantage of heat-resistant polymers. Their robust nature and resistance to wear and tear ensure a longer lifespan compared to other materials commonly used in the industry. This longevity translates to reduced maintenance costs, less frequent replacements, and enhanced operational efficiency. By minimizing downtime and optimizing resource utilization, heat-resistant polymers contribute to substantial long-term cost savings for oil and gas companies.



Furthermore, the resistance of these polymers to chemical degradation makes them well-suited for use in environments where they may come into contact with corrosive substances. The oil and gas industry often exposes materials to harsh chemicals and corrosive agents, which can deteriorate the integrity of conventional materials. In contrast, heat-resistant polymers exhibit exceptional resistance, maintaining their performance and structural integrity even when exposed to aggressive chemical environments.

In the face of numerous challenges posed by the oil and gas industry, such as extreme temperatures, harsh chemicals, and high pressures, heat-resistant polymers stand out as an ideal solution. Their unique properties allow them to excel in demanding applications, improving reliability, efficiency, and safety across the industry.

Heat-resistant polymers find extensive use in a variety of applications within the oil and gas sector. They are commonly employed in seals and gaskets, insulation materials, piping systems, and downhole equipment. Their ability to withstand the harshest conditions while preserving their integrity and functionality makes them an invaluable resource in these critical applications, ensuring the smooth and reliable operation of oil and gas infrastructure.

In summary, the exceptional heat resistance, durability, and resistance to chemical degradation exhibited by heat-resistant polymers make them indispensable in the oil and gas industry. Their capacity to endure extreme temperatures, extended lifespan, and robustness against corrosive substances contribute to enhanced reliability, efficiency, and cost-effectiveness. By choosing heat-resistant polymers, companies in the oil and gas sector can confidently tackle the most challenging operational conditions, ensuring the long-term success of their projects.

Growing Demand of Heat Resistant Polymers in the Automotive Industry

Heat-resistant polymers are widely recognized for their exceptional heat resistance, outstanding durability, and remarkable chemical stability. These remarkable features not only make them highly suitable for the automotive industry but also position them as key materials in various other industrial sectors. Their ability to withstand extremely high temperatures ensures optimal performance even in the most heat-intensive environments commonly found in vehicles. Moreover, their exceptional durability significantly reduces the need for frequent replacements, resulting in substantial long-term cost savings for manufacturers and end-users alike. Additionally, their unparalleled



resistance to chemical degradation makes them ideal for use in environments where they may come into contact with corrosive substances, ensuring their integrity and longevity.

As the automotive industry faces an array of challenges, including the pressing need to improve fuel efficiency, reduce emissions, and enhance overall vehicle performance, heat-resistant polymers emerge as a unique and highly effective solution. These innovative materials possess a set of properties that uniquely equip them to address these challenges, ultimately improving reliability, efficiency, and sustainability in the automotive sector. Their exceptional heat resistance and durability make them indispensable in various applications within the industry, including under-the-hood components, electrical systems, and interior parts. Whether it's withstanding the intense heat generated by engine compartments or resisting the corrosive effects of automotive fluids, heat-resistant polymers consistently maintain their integrity under harsh conditions, ensuring optimal performance and safety for vehicle users.

In conclusion, the growing demand for heat-resistant polymers in the automotive industry serves as a significant driver for the global heat-resistant polymers market. The unique and unparalleled properties of these polymers, combined with the expanding automotive sector, position them as the material of choice for a wide range of applications within the industry. As the automotive industry continues to grow and evolve, the demand for heat-resistant polymers is expected to rise exponentially, further propelling the global market forward and opening up new opportunities for innovation and advancement.

Key Market Challenges

Variability in Prices of Raw Materials

Heat-resistant polymers, essential materials in various industries, are synthesized from a diverse range of raw materials, including petroleum derivatives and specific minerals. The prices of these raw materials are subject to constant fluctuations influenced by numerous factors such as dynamic supply-demand dynamics, geopolitical events, environmental regulations, and currency exchange rates.

When the prices of these raw materials surge, it inevitably leads to increased production costs for heat-resistant polymers. To mitigate these costs, manufacturers often transfer the burden onto consumers through higher prices, potentially impacting the demand for these polymers adversely.



Conversely, when raw material prices experience a downturn, it can result in lower production costs. However, manufacturers may not always reap the full benefits of these cost savings due to pre-existing contractual agreements or other influencing factors.

The variability in raw material prices significantly influences the heat-resistant polymers market. During periods of high prices, consumers may seek more affordable alternatives, leading to reduced demand. Consequently, manufacturers face decreased revenues and experience a slowdown in market growth.

On the other hand, when raw material prices plummet, it can prompt increased production and a potential oversupply in the market. This oversupply may drive down prices for heat-resistant polymers, potentially impacting manufacturers' profit margins and overall market stability.

**Key Market Trends** 

Increased Use of Heat Resistant Polymers in Additive Manufacturing

Additive manufacturing, also known as 3D printing, is revolutionizing the production industry. Its ability to create complex and customized parts with reduced waste and cost has garnered attention across various sectors. One exciting advancement in this field is the integration of heat-resistant polymers into the additive manufacturing process.

Heat-resistant polymers offer exceptional properties, such as heat resistance, durability, and chemical stability. These characteristics make them ideal for 3D printing applications that require materials to withstand high temperatures and harsh environments. As a result, industries like aerospace, automotive, and electronics are increasingly adopting heat-resistant polymers for their components that need to endure extreme conditions.

The rise in the recognition of the benefits of additive manufacturing, combined with the exceptional properties of heat-resistant polymers, is driving the continued trend towards their use. Furthermore, ongoing research and development efforts are focused on creating new variants of heat-resistant polymers that are even better suited for additive manufacturing. These advancements have the potential to further fuel growth in the heat-resistant polymers market.



Innovations in 3D printing technologies, such as high-speed sintering (HSS) and selective laser sintering (SLS), are also contributing to the broader adoption of heat-resistant polymers. These advancements enable faster and more precise manufacturing processes, expanding the possibilities for using heat-resistant polymers in various industries.

As the additive manufacturing industry continues to evolve, we can expect to see advancements in both the technology and materials used. This continuous progress will shape the future of heat-resistant polymers and their applications, opening up new opportunities for innovation and growth.

## Segmental Insights

## Type Insights

Based on the category of type, the fluoropolymers segment emerged as the dominant player in the global market for Heat Resistant Polymers in 2022. Fluoropolymers possess remarkable properties such as high dimensional stability, excellent chemical resistance, and exceptional resistance to acids, bases, and solvents. Additionally, they exhibit a property known as friction dropping, which greatly facilitates the manufacturing of consumer goods. These exceptional properties contribute to the anticipated growth of this product, estimated to have the highest compound annual growth rate (CAGR) of 6.6% during the period from 2017 to 2025.

Among the fluoropolymer products, polyphenylene sulfide held the second largest market share in terms of revenue in 2016, and it is projected to reach a market valuation of USD 3.62 billion. Polyphenylene sulfide is synthesized to produce textiles and synthetic fibers, which are extensively used in filter fabrics for electrical insulation, coal boilers, packaging, and gaskets. It is also utilized as an engineering plastic that can be easily molded and extruded for various automotive and electrical applications.

In addition to polyphenylene sulfide, other significant fluoropolymer products include polyimide, polybenzimidazole, and PEEK. These polymers are known for their flexibility, lightweight nature, and exceptional resistance to heat and chemicals. Polyimide finds diverse applications in areas such as displays, high-temperature fuel cells, and the defense sector. On the other hand, polybenzimidazole exhibits high heat stability, making it an ideal choice for fabricating protective apparel, including spacesuits for astronauts, firefighter gear, and heat-resistant gloves.



The wide range of properties and applications of fluoropolymers make them highly valuable in various industries, driving their continuous growth and innovation.

## **End User Insights**

The Transportation segment is projected to experience rapid growth during the forecast period. The increasing applications of heat resistant polymers in various industries are expected to drive the product market during the forecast period. These polymers are being widely used to manufacture fuel-efficient, compact, and lightweight vehicles by replacing metallic parts. By enabling high operating temperatures, heat resistant polymers contribute to increased fuel efficiency and reduced emissions in automotive applications. Additionally, these versatile materials find high demand in the electrical and electronics industries, where they are commonly used in connectors, motor brush cards, and circuits. Their excellent heat resistance and electrical insulation properties make them ideal for such applications. With their ability to withstand extreme conditions and provide reliable performance, heat resistant polymers are playing a crucial role in shaping the future of multiple industries.

## Regional Insights

Asia Pacific emerged as the dominant player in the Global Heat Resistant Polymers Market in 2022, holding the largest market share in terms of value. Emerging economies like India and China are poised to experience robust economic growth in the coming years. This growth is fueled by the increasing demand for high temperature plastics from various industries including automotive, electronics, and aerospace sectors in these countries. As a result, the market for high temperature plastics has witnessed significant expansion.

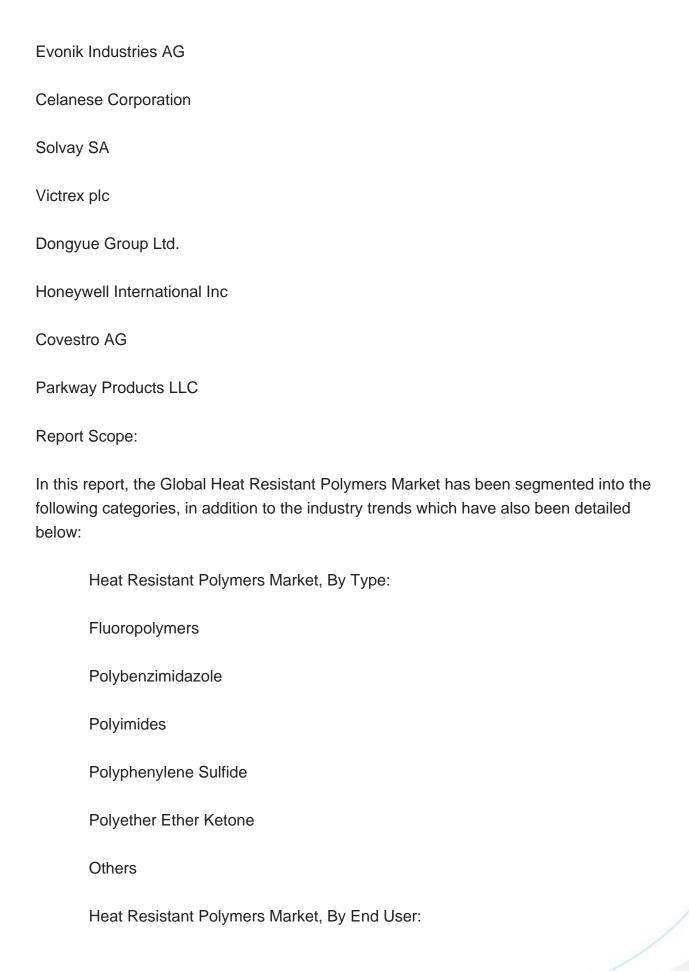
Furthermore, the growing production of automobiles and investments in defense and aerospace sectors are projected to drive the demand for heat resistant polymers worldwide. Notably, North America has made substantial investments in developing polymer engineering, which is expected to fuel the preference for these high temperature plastics in the region.

**Key Market Players** 

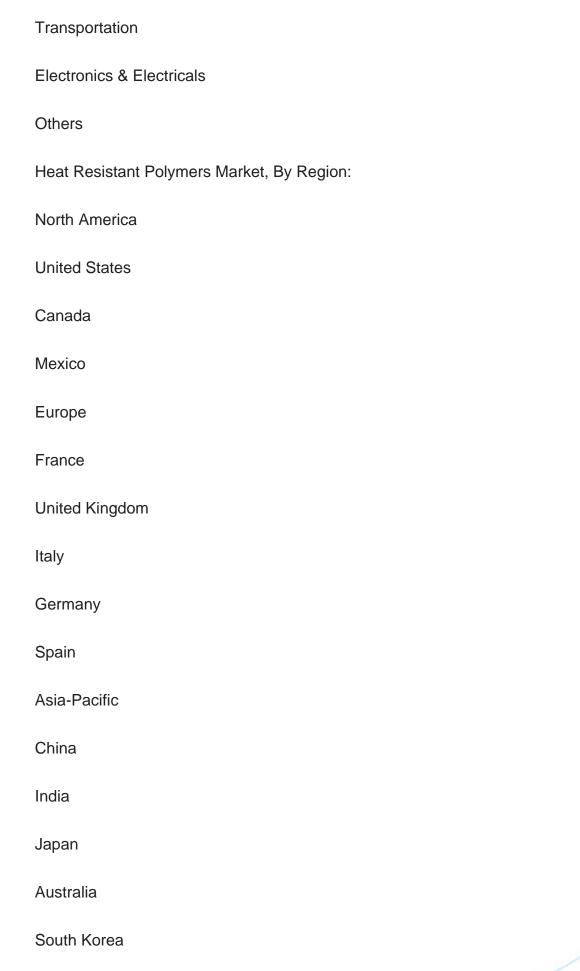
**BASF SE** 

Arkema SA











South America

**Company Information** 

Brazil		
Argentina		
Colombia		
Middle East & Africa		
South Africa		
Saudi Arabia		
UAE		
Kuwait		
Turkey		
Egypt		
competitive Landscape		
Company Profiles: Detailed analysis of the major companies present in the Global Heat Resistant Polymers Market.		
vailable Customizations:		
Global Heat Resistant Polymers Market report with the given market data, Tech Sci Research offers customizations according to a company's specific needs. The following customization options are available for the report:		

Detailed analysis and profiling of additional market players (up to five).



## **Contents**

#### 1. PRODUCT OVERVIEW

- 1.1. Market Definition
- 1.2. Scope of the Market
  - 1.2.1. Markets Covered
  - 1.2.2. Years Considered for Study
  - 1.2.3. Key Market Segmentations

#### 2. RESEARCH METHODOLOGY

- 2.1. Objective of the Study
- 2.2. Baseline Methodology
- 2.3. Key Industry Partners
- 2.4. Major Association and Secondary Sources
- 2.5. Forecasting Methodology
- 2.6. Data Triangulation & Validation
- 2.7. Assumptions and Limitations

## 3. EXECUTIVE SUMMARY

- 3.1. Overview of the Market
- 3.2. Overview of Key Market Segmentations
- 3.3. Overview of Key Market Players
- 3.4. Overview of Key Regions/Countries
- 3.5. Overview of Market Drivers, Challenges, Trends

#### 4. GLOBAL HEAT RESISTANT POLYMERS MARKET OUTLOOK

- 4.1. Market Size & Forecast
  - 4.1.1. By Value
- 4.2. Market Share & Forecast
- 4.2.1. By Type (Fluoropolymers, Polybenzimidazole, Polyimides, Polyphenylene Sulfide, Polyether Ether Ketone, Others)
- 4.2.2. By End User (Transportation, Electronics & Electricals, Others)
- 4.2.3. By Region
- 4.2.4. By Company (2022)
- 4.3. Market Map



- 4.3.1. By Type
- 4.3.2. By End User
- 4.3.3. By Region

#### 5. ASIA PACIFIC HEAT RESISTANT POLYMERS MARKET OUTLOOK

- 5.1. Market Size & Forecast
  - 5.1.1. By Value
- 5.2. Market Share & Forecast
  - 5.2.1. By Type
  - 5.2.2. By End User
  - 5.2.3. By Country
- 5.3. Asia Pacific: Country Analysis
  - 5.3.1. China Heat Resistant Polymers Market Outlook
    - 5.3.1.1. Market Size & Forecast
      - 5.3.1.1.1. By Value
    - 5.3.1.2. Market Share & Forecast
      - 5.3.1.2.1. By Type
      - 5.3.1.2.2. By End User
  - 5.3.2. India Heat Resistant Polymers Market Outlook
    - 5.3.2.1. Market Size & Forecast
      - 5.3.2.1.1. By Value
    - 5.3.2.2. Market Share & Forecast
      - 5.3.2.2.1. By Type
      - 5.3.2.2.2. By End User
  - 5.3.3. Australia Heat Resistant Polymers Market Outlook
    - 5.3.3.1. Market Size & Forecast
      - 5.3.3.1.1. By Value
    - 5.3.3.2. Market Share & Forecast
      - 5.3.3.2.1. By Type
      - 5.3.3.2.2. By End User
  - 5.3.4. Japan Heat Resistant Polymers Market Outlook
    - 5.3.4.1. Market Size & Forecast
      - 5.3.4.1.1. By Value
    - 5.3.4.2. Market Share & Forecast
      - 5.3.4.2.1. By Type
      - 5.3.4.2.2. By End User
  - 5.3.5. South Korea Heat Resistant Polymers Market Outlook
    - 5.3.5.1. Market Size & Forecast



5.3.5.1.1. By Value

5.3.5.2. Market Share & Forecast

5.3.5.2.1. By Type

5.3.5.2.2. By End User

#### 6. EUROPE HEAT RESISTANT POLYMERS MARKET OUTLOOK

- 6.1. Market Size & Forecast
  - 6.1.1. By Value
- 6.2. Market Share & Forecast
  - 6.2.1. By Type
  - 6.2.2. By End User
  - 6.2.3. By Country
- 6.3. Europe: Country Analysis
  - 6.3.1. France Heat Resistant Polymers Market Outlook
    - 6.3.1.1. Market Size & Forecast
      - 6.3.1.1.1. By Value
    - 6.3.1.2. Market Share & Forecast
      - 6.3.1.2.1. By Type
      - 6.3.1.2.2. By End User
  - 6.3.2. Germany Heat Resistant Polymers Market Outlook
    - 6.3.2.1. Market Size & Forecast
      - 6.3.2.1.1. By Value
    - 6.3.2.2. Market Share & Forecast
      - 6.3.2.2.1. By Type
      - 6.3.2.2.2. By End User
  - 6.3.3. Spain Heat Resistant Polymers Market Outlook
    - 6.3.3.1. Market Size & Forecast
      - 6.3.3.1.1. By Value
    - 6.3.3.2. Market Share & Forecast
      - 6.3.3.2.1. By Type
      - 6.3.3.2.2. By End User
  - 6.3.4. Italy Heat Resistant Polymers Market Outlook
    - 6.3.4.1. Market Size & Forecast
      - 6.3.4.1.1. By Value
    - 6.3.4.2. Market Share & Forecast
      - 6.3.4.2.1. By Type
      - 6.3.4.2.2. By End User
  - 6.3.5. United Kingdom Heat Resistant Polymers Market Outlook



6.3.5.1. Market Size & Forecast

6.3.5.1.1. By Value

6.3.5.2. Market Share & Forecast

6.3.5.2.1. By Type

6.3.5.2.2. By End User

#### 7. NORTH AMERICA HEAT RESISTANT POLYMERS MARKET OUTLOOK

7.1. Market Size & Forecast

7.1.1. By Value

7.2. Market Share & Forecast

7.2.1. By Type

7.2.2. By End User

7.2.3. By Country

7.3. North America: Country Analysis

7.3.1. United States Heat Resistant Polymers Market Outlook

7.3.1.1. Market Size & Forecast

7.3.1.1.1 By Value

7.3.1.2. Market Share & Forecast

7.3.1.2.1. By Type

7.3.1.2.2. By End User

7.3.2. Mexico Heat Resistant Polymers Market Outlook

7.3.2.1. Market Size & Forecast

7.3.2.1.1. By Value

7.3.2.2. Market Share & Forecast

7.3.2.2.1. By Type

7.3.2.2.2. By End User

7.3.3. Canada Heat Resistant Polymers Market Outlook

7.3.3.1. Market Size & Forecast

7.3.3.1.1. By Value

7.3.3.2. Market Share & Forecast

7.3.3.2.1. By Type

7.3.3.2.2. By End User

## 8. SOUTH AMERICA HEAT RESISTANT POLYMERS MARKET OUTLOOK

8.1. Market Size & Forecast

8.1.1. By Value

8.2. Market Share & Forecast



- 8.2.1. By Type
- 8.2.2. By End User
- 8.2.3. By Country
- 8.3. South America: Country Analysis
  - 8.3.1. Brazil Heat Resistant Polymers Market Outlook
    - 8.3.1.1. Market Size & Forecast
      - 8.3.1.1.1. By Value
    - 8.3.1.2. Market Share & Forecast
      - 8.3.1.2.1. By Type
    - 8.3.1.2.2. By End User
  - 8.3.2. Argentina Heat Resistant Polymers Market Outlook
    - 8.3.2.1. Market Size & Forecast
      - 8.3.2.1.1. By Value
    - 8.3.2.2. Market Share & Forecast
      - 8.3.2.2.1. By Type
      - 8.3.2.2.2. By End User
  - 8.3.3. Colombia Heat Resistant Polymers Market Outlook
    - 8.3.3.1. Market Size & Forecast
      - 8.3.3.1.1. By Value
    - 8.3.3.2. Market Share & Forecast
      - 8.3.3.2.1. By Type
      - 8.3.3.2.2. By End User

# 9. MIDDLE EAST AND AFRICA HEAT RESISTANT POLYMERS MARKET OUTLOOK

- 9.1. Market Size & Forecast
  - 9.1.1. By Value
- 9.2. Market Share & Forecast
  - 9.2.1. By Type
  - 9.2.2. By End User
  - 9.2.3. By Country
- 9.3. MEA: Country Analysis
  - 9.3.1. South Africa Heat Resistant Polymers Market Outlook
    - 9.3.1.1. Market Size & Forecast
      - 9.3.1.1.1. By Value
    - 9.3.1.2. Market Share & Forecast
      - 9.3.1.2.1. By Type
      - 9.3.1.2.2. By End User



## 9.3.2. Saudi Arabia Heat Resistant Polymers Market Outlook

- 9.3.2.1. Market Size & Forecast
  - 9.3.2.1.1. By Value
- 9.3.2.2. Market Share & Forecast
  - 9.3.2.2.1. By Type
- 9.3.2.2.2. By End User
- 9.3.3. UAE Heat Resistant Polymers Market Outlook
  - 9.3.3.1. Market Size & Forecast
    - 9.3.3.1.1. By Value
  - 9.3.3.2. Market Share & Forecast
    - 9.3.3.2.1. By Type
    - 9.3.3.2.2. By End User
- 9.3.4. Egypt Heat Resistant Polymers Market Outlook
  - 9.3.4.1. Market Size & Forecast
    - 9.3.4.1.1. By Value
  - 9.3.4.2. Market Share & Forecast
    - 9.3.4.2.1. By Type
    - 9.3.4.2.2. By End User

## 10. MARKET DYNAMICS

- 10.1. Drivers
- 10.2. Challenges

#### 11. MARKET TRENDS & DEVELOPMENTS

- 11.1. Recent Developments
- 11.2. Product Launches
- 11.3. Mergers & Acquisitions

#### 12. GLOBAL HEAT RESISTANT POLYMERS MARKET: SWOT ANALYSIS

#### 13. PORTER'S FIVE FORCES ANALYSIS

- 13.1. Competition in the Industry
- 13.2. Potential of New Entrants
- 13.3. Power of Suppliers
- 13.4. Power of Customers
- 13.5. Threat of Substitute Product



#### 14. COMPETITIVE LANDSCAPE

- 14.1. Business Overview
- 14.2. Company Snapshot
- 14.3. Products & Services
- 14.4. Current Capacity Analysis
- 14.5. Financials (In case of listed companies)
- 14.6. Recent Developments
- 14.7. SWOT Analysis
  - 14.7.1. BASF SE
  - 14.7.2. Arkema SA
  - 14.7.3. Evonik Industries AG
  - 14.7.4. Celanese Corporation
  - 14.7.5. Solvay SA
  - 14.7.6. Victrex plc
  - 14.7.7. Dongyue Group Ltd.
  - 14.7.8. Honeywell International Inc
  - 14.7.9. Covestro AG
  - 14.7.10. Parkway Products LLC

#### 15. STRATEGIC RECOMMENDATIONS

#### 16. ABOUT US & DISCLAIMER



#### I would like to order

Product name: Heat Resistant Polymers Market - Global Industry Size, Share, Trends, Opportunity, and

Forecast, 2018-2028 Segmented By Type (Fluoropolymers, Polybenzimidazole, Polyimides, Polyphenylene Sulfide, Polyether Ether Ketone, Others), By End User (Transportation, Electronics & Electricals, Others), By Region and Competition

Product link: https://marketpublishers.com/r/H5B867AF93EEEN.html

Price: US\$ 4,900.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer

Service:

info@marketpublishers.com

## **Payment**

First name:

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <a href="https://marketpublishers.com/r/H5B867AF93EEEN.html">https://marketpublishers.com/r/H5B867AF93EEEN.html</a>

To pay by Wire Transfer, please, fill in your contact details in the form below:

Email:	
Company:	
Address:	
City:	
Zip code:	
Country:	
Tel:	
Fax:	
Your message:	
	**All fields are required
	Custumer signature

Please, note that by ordering from marketpublishers.com you are agreeing to our Terms & Conditions at <a href="https://marketpublishers.com/docs/terms.html">https://marketpublishers.com/docs/terms.html</a>



To place an order via fax simply print this form, fill in the information below and fax the completed form to  $+44\ 20\ 7900\ 3970$