Polycarbonate Market Research Report - Global Forecast till 2025

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Description:


Market Synopsis

Polycarbonate (PC) is a high-performance, tough, amorphous, transparent, and crystalline thermoplastic polymer. It has organic functional groups linked together by carbonate groups (–O–(C=O)–O–) and offers a unique combination of properties including moisture-resistance, good heat, electrical, and chemical resistance, as well as it exhibits excellent oxidative and thermal stability. It is commonly synthesized from phosgene with bisphenol A by a step-growth polymerization process. The PC resins formed is then converted to pellets and can be quickly processed using the injection molding and extrusion techniques to produce components with excellent dimensional stability.

Polycarbonate is a popular material of choice in the electronics, automotive, and construction industries owing to its versatile characteristics, eco-friendly processing, and recyclability. The unique set of chemical and physical features offered by PC makes it suitable over glass, PMMA, PE, among other materials in these industries. PC is durable, which makes it resistant to impact and fracture. Hence, it is used in applications requiring safety and comfort as well as high reliability & performance. PC is highly transparent plastic and can transmit over 90% of light (as good as glass), due to which PC sheets are used in a wide range of applications in the automotive and construction industries. Additionally, polycarbonates can be designed to block ultraviolet radiation and provide complete protection from harmful UV rays. The refractive index of clear polycarbonate is 1.584, as a result of which it offers excellent optical properties and is widely used in optical media applications.

The global polycarbonate market was valued at over USD 15 billion in 2018 and is projected to register a CAGR of about 5% during the review period, 2019 to 2025. High demand for polycarbonate in the electrical & electronics and automotive industries, coupled with the healthy growth of these industries globally, is expected to be one of the prominent growth drivers of the global market. The light-weight and high-impact qualities of polycarbonate sheets make them suitable and promising materials for use in constructing sensor parts, switching relays, computers, cell phones, LCD sections, electronic game consoles, connectors, CDs, DVDs, batteries & chargers, and LED’s, among others. These sheets are highly preferred in the electrical and electronic industry as they are one of the safest and most durable materials. In addition, the rising demand for spike temperature resistance, flexibility, and toughness in thin sections, high service temperature, and non-flammability features in the material being used in electrical and electronics is expected to boost demand for PC as it offers these standard safety features.

The automotive industry is the other major user of PC, wherein it is used to manufacture lightweight exterior and interior components. The use of PC in automobiles helps make cars lighter and more fuel-efficient (reducing greenhouse gas emissions) as well as maintain safety. PC’s highly formable and lightweight properties enable automakers to offer sleek curves and modern designs for automobiles while reducing the weight of vehicle components by up to 50%. The major exterior automotive applications served by polycarbonates and polycarbonate blends include automotive glazing (durable window encapsulation), roof bezels, panoramic roof panels, backlights, and side windows. With growing consumer expectations, the automotive interior design needs to feature
improved component functionality while also maintaining an elegant and luxurious appearance. Increasing consciousness about safety during the operation of automobiles and rising concerns for fuel efficiency are the key factors favoring demand for high-performance plastics in the automotive industry. The availability of close substitutes and stringent environmental regulations pertaining to the production of polycarbonates are expected to be the critical challenges for the manufacturers operating in the global market growth during the review period.

Regional Analysis
The global polycarbonate market has been segmented into five key regions, namely Asia-Pacific, Europe, North America, Latin America, and the Middle East & Africa. In 2018, Asia-Pacific was a dominant market with a market share of over 60% of the global market and is projected to be the leading regional market in the years to follow. The growing electrical & electronics industry in the region, coupled with the increased spending on consumer electronic goods, is expected to be a key factor driving the regional market growth. China is the largest country-level market in Asia-Pacific as well as globally, accounting for over 35% of the global market share. The automotive industry in China, India, Japan, South Korea, and Thailand are expected to be the primary consumers of the PC in the regional market in the years to follow. The healthy growth of the building & construction industry in the region is expected to be the other factor fueling demand for polycarbonates in glazing applications.

Europe is expected to be the second-largest regional market, which is primarily attributed to the high product demand in the automotive industry. Stringent environmental regulations about the emissions from automobiles are expected to boost demand for polycarbonate in the lightweighting applications in this industry.

The regional market in the Middle East & Africa is expected to be the other fast-growing regional market on account of the bolstering electronics sector and expanding automotive industry in the key economic markets of the UAE, Saudi Arabia, and Egypt.

Market Segmentation
The global polycarbonate market has been segmented based on processing technology, end-use, and region.
Based on processing technology, the global polycarbonate market has been classified as extrusion and molding. The molding segment is further sub-segmented into injection molding, blow molding, and others.
By end-use, the global polycarbonate market has been segmented into automotive, electrical & electronics, building & construction, optical media, home appliances, packaging, medical, sports & leisure, and others.
The global polycarbonate market has been studied with respect to five key regions—Asia-Pacific, North America, Europe, Latin America, and the Middle East & Africa.

Key Players
Covestro AG (Germany), SABIC (Saudi Arabia), Teijin Limited (Japan), Mitsubishi Engineering Plastics Corp. (Japan), LG Chem (South Korea), Trinseo (US), Formosa Chemicals & Fibre Corp (Taiwan), LOTTE Chemical CORPORATION (South Korea), Chi Mei Corporation (Taiwan), and Idemitsu Kosan Co. Ltd. (Japan) are some of the key players operating in the global polycarbonate market.

Intended Audience
- Polycarbonate manufacturers
- Traders and distributors of polycarbonate
- Research and development institutes
- Potential investors
- End users
- Nationalized laboratories
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marketresearchfuture.com / Phone (US) + 1-646-845-9349 (UK) +44 208 133 9349