Dimethyl Carbonate (DMC) Market Research Report - Global Forecast till 2024

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Description:

Global Dimethyl Carbonate (DMC) Market: Information by Grade (Industrial Grade, Pharmaceutical Grade, Battery Grade and others), Application (Polycarbonate, Fuel Additive, Solvent, Lithium Battery, Pharmaceuticals, Pesticides and others), End Use (Plastic, Paints & Coatings, Medical, Electronics, Agrochemicals and others) and Region (North America, Europe, Asia-Pacific, Latin America, Middle East & Africa) - Forecast till 2024

Overview

The Global Dimethyl Carbonate (DMC) Market is projected to register a healthy CAGR of 4.49% to reach USD 594.3 Million by 2024. Dimethyl carbonate (DMC) is a non-toxic inorganic compound with chemical formula OC(OCH3)2. It exists in liquid form and is colorless. DMC is flammable and can be classified as a carbonate ester. It can easily mix with almost all organic solvents, including alcohols, ketones, and ethers, among others.

Also, it is less toxic in nature and has unique molecular structure, which makes it suitable for diverse applications, namely fuel additives, pesticides, pharmaceuticals, solvents, and others. It is significantly used as a methylating agent in the production of analgesics, anti-infective, and antipyretic drugs. Earlier, DMC was produced by reacting phosgene with methanol. Due to the toxic nature of phosgene gas, DMC is now produced by oxidation of methanol carbonylation or transesterification.

Market Dynamics

The growing production of polycarbonate on account of increasing demand in the automotive and electronics industries is likely to propel the global dimethyl carbonate (DMC) market growth, as DMC is largely used in the production of polycarbonate. It is considered as a greener alternative for manufacturing polycarbonates as it does not generate phenols or acids. Moreover, increasing concerns for eco-friendly production of thermoplastics has further boosted the DMC production. In addition, growing environmental concerns and stringent regulations to protect environmental health along with significant competitive advantages of DMC are propelling the global market growth.

Moreover, increasing demand for DMC from the paints and coating industry to produce water-based eco-friendly paints is likely to create lucrative opportunities to the market players operating this market. also, DMC is considered as a better alternative to traditional solvents used in paints owing to no VOC emissions and no environmental impact. Furthermore, its solubility is similar to the mixture of solvents consisting naphtha light aromatics, which further makes it one of the most suitable solvents for paints.

Global Dimethyl Carbonate (DMC) Market Revenue, by Application, 2018 (USD Million)
Segmentation

The global dimethyl carbonate (DMC) market has been segmented into grade, application, end use, and region.

Based on grade, the industrial segment held the largest market share of **48.09% in 2018** and is estimated to reach **USD 296.75 million** during the review period owing its highest DMC content (>99 weight %). It is largely used in the production of polycarbonate which is widely used in automotive and electronic industries. Moreover, it is used in the production of adhesives and cleaning agents.

On the basis of application, the polycarbonate segment dominated the global market with a market share of **45.03% in 2018** and was valued at **USD 209.57 million**. This is attributed to its versatility, low weight, high durability, and superior resistance to heat and abrasion which makes it a suitable thermoplastic for automotive, electronic, medical, and construction end-use industries. Polycarbonate is the best material used in diverse applications such as optical media, DVDs, and CDs.

By end use, the plastic segment accounted for the largest market share of **54.23% in 2018** and is projected to exhibit a substantial **CAGR of 4.18%**. This is largely attributed to the growing consumption of polycarbonate plastics in electric vehicles in Asia-Pacific. Also, plastic-enabling technologies account for more than **60%** of the automobile weight.

Key Players

The prominent players operating in the global dimethyl carbonate (DMC) market are **Alfa Aesar**, Thermo Fisher Scientific (US), Ube Industries Ltd. (Japan), Merck KGaA (Germany), Shandong Shida Shenghua Chemical Group Co., Ltd. (China), HaiKe Chemical Group Ltd. (China), Arrow Chemical Group Corp. (China), Tokyo Chemical Industry Co., Ltd. (Japan), Tongling Jintai Chemical Industrial Co., Ltd. (China), Tangshan Chaoyang Chemical Co., Ltd., (China), and Kowa India Pvt. Ltd. (India).

Global Dimethyl Carbonate (DMC) Market Share, by Region, 2018 (%)
The Asia-Pacific market dominated the global market accounting the largest share of 54.79% in 2018 and is estimated to register the highest CAGR of 5.39% by the end of 2024. This is attributed to the high consumption of DMC in electronics, automotive, and paints and coatings industries. Moreover, large consumer base and increasing disposable income is further propelling the regional market. In addition, increasing customer preferences towards color and superior quality paints is the region is likely to boost the market. Also, the presence of major DMC producers in the region such as Ube Industries Ltd, Shandong Shida Shenghua Chemical Group Co., Ltd., HaiKe Chemical Group Ltd., Arrow Chemical Group Corp., Tokyo Chemical Industry Co., Ltd., Tongling Jintai Chemical Industrial Co., Ltd., Tangshan Chaoyang Chemical Co., Ltd., and Kowa India Pvt. Ltd. help in serving the products in the region. China is the leading country in the region, which is followed by India, Japan, and South Korea.

The North American market accounted for the second-largest market share of 19.08% in 2018 and is likely to exhibit a moderate CAGR of 3.32% during the assessment period owing to the government initiatives to upgrade public infrastructure in the region. Moreover, on account of recovery of automotive and construction sectors and increasing investments for buildings and infrastructure has further propelled the regional market growth. The US is the major contributor in the region due to the high consumption of DMC in pharmaceutical industry.

Some of the key strategies followed by the players operating in the global dimethyl carbonate (DMC) market are expansion, acquisitions, and new product launches.

- **In March 2016**, Ube Industries, Ltd. entered into an agreement with Chinese fine chemicals manufacturer CNSG Anhui Hong Sifang Co., Ltd. According to an agreement Ube has licensed its technology for manufacturing dimethyl carbonate (DMC) to CNSG Anhui Hong Sifang. To effect this, CNSG announced the construction of manufacturing facilities for DMC in Hefei, Anhui Province, China with an annual production capacity of 100,000 tons. This is a Joint Venture, wherein Ube and CNSG holding 40% and 50% share respectively and remaining 10% held by other companies.

- **In December 2017**, Shandong Shida Shenghua Chemical Group Co Ltd announced that it had signed a cooperation agreement with a new energy research institute on hydrogen fuel cell sand lithium-ion battery business. This development is likely to boost their efforts to manufacture high purity solvents.

- **In December 2013**, Ube Industries, Ltd. revised the prices for dimethyl carbonate (DMC) product. The company announced the rise in prices for DMC on the backdrop of
aroused prices for substantial raw materials such as methanol.

Market Segmentation

Global Dimethyl Carbonate (DMC) Market, by Grade
- Industrial Grade
- Pharmaceutical Grade
- Battery Grade

Global Dimethyl Carbonate (DMC) Market, By Application
- Polycarbonate
- Fuel Additive
- Solvent
- Pharmaceuticals
- Lithium Battery
- Pesticides
- Others

Global Dimethyl Carbonate (DMC) Market, By Region
- North America
  - US
  - Canada
- Europe
  - Germany
  - UK
  - Italy
  - Spain
  - France
  - Russia
  - Rest of Europe
- Asia-Pacific
  - China
  - Japan
  - India
  - South Korea
  - Rest of Asia-Pacific
- Latin America
  - Mexico
  - Brazil
  - Argentina
  - Rest of Latin America
- Middle East & Africa
  - UAE
  - Saudi Arabia
  - Turkey
  - Rest of the Middle East and Africa

Available Additional Customizations

Intended Audience
- Dimethyl carbonate manufacturers
- Traders and distributors of dimethyl carbonate
- Production process industries
- Potential investors
- Raw material suppliers
- Nationalized laboratory
The global Dimethyl Carbonate market is expected to reach USD 594.3 million by the end of 2024.

Global Dimethyl Carbonate Market Share, by Region, 2018

Drivers
- Increasing demand for polycarbonate in automotive and electrical & electronics industries
- Highly preferred eco-friendly alternative solvent over its

Key Players

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