

Industrial Gases Market: Global Industry Trends, Share, Size, Growth, Opportunity and Forecast 2023-2028

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Abstracts

Market Overview:

Industrial gases refer to highly pure gases that are used in industrial applications owing to their specialized properties. It includes oxygen, nitrogen, carbon dioxide, helium, argon, and hydrogen. They are commercially produced by various methods, such as atmospheric separation, chemical reactions, and extraction from natural sources. Industrial gases are widely used for combustion processes, metal fabrication, food packaging, electronics manufacturing, chemical production, drug formulation, and fuel extraction. They are safe, versatile, and eco-friendly substances that save costs, prevent spoilage, improve product quality, and enhance the efficiency of industrial processes.

The global industrial gases market is expected to expand at a larger CAGR during the forecast period. The rising product utilization in the healthcare industry for respiratory therapies, anesthesia, medical gas systems, and magnetic resonance imaging (MRI) scanners is providing an impetus to the market growth. Furthermore, the growing product adoption in the oil and gas industry for inerting, blanketing, sparging, and purging applications and to increase extraction of oil and gas from reservoirs is contributing to the market growth. Besides this, the increasing emphasis on renewable energy sources is facilitating the demand for industrial gases that are widely used in fuel cells, energy storage systems, and alternative fuel applications. Other factors, including rapid infrastructural development activities, implementation of supportive government policies, and increasing product utilization in the transportation industry, are anticipated to drive market growth.

Industrial Gases Market Trends/Drivers:

Significant growth in the food and beverage (F&B) industry

Industrial gases play a crucial role in the F&B industry as they are widely used in freezing and cooling applications to preserve the texture, nutrients, and freshness of various food products, such as meat, poultry, seafood, baked goods, and vegetables. Along with this, industrial gases find extensive applications in carbonated beverages, such as soft drinks, beer, and sparkling water, to provide fizz, enhance taste, and improve the overall sensory experience of the beverages. Furthermore, the growing demand for industrial gases in food packaging and preservation to create an inert environment, reduce microbial growth, slow down oxidation, prevent spoilage, and maintain products' quality, freshness, and texture is providing an impetus to the market growth. In addition to this, the increasing adoption of packaged food products, owing to the changing consumer lifestyles and hectic schedules, is acting as another growth-inducing factor.

The rapid expansion of manufacturing activities

Industrial gases are widely used in the manufacturing of metal products, electronics, glasses, rubbers, automobiles, and chemicals. In line with this, they aid in generating high-temperature flames that are used for efficient welding, brazing, and cutting operations. Furthermore, industrial gases create an inert environment, which prevents oxidation during annealing, hardening, and tempering of metal products. Additionally, they are widely used in the automotive industry to inflate tires, fabricate vehicle components, and enable smooth painting and coating operations. Besides this, industrial gases act as feedstock material in the manufacturing of various chemicals, such as ammonia and methanol.

Recent technological advancements

The industrial gases market has witnessed rapid technological advancements in recent years to improve product efficiency, promote sustainability, and save costs. In line with this, the recent development of on-site gas generation systems that produce industrial gases directly at the point of use, thus eliminating the need for transportation and storage equipment, is positively influencing the market growth. Furthermore, the introduction of advanced gas purification techniques, such as pressure swing adsorption (PSA) and membrane separation, which enables the removal of impurities and contaminants, ensures high quality, and meets stringent industry standards, is favoring the market growth. Additionally, the development of sustainable hydrogen production

methods, such as electrolysis, which utilizes renewable electricity, thus promoting sustainability and reducing reliance on fossil fuels, is supporting the market growth.

Industrial Gases Industry Segmentation:

IMARC Group provides an analysis of the key trends in each segment of the global industrial gases market report, along with forecasts at the global and regional levels from 2023-2028. Our report has categorized the market based on type, application, and supply mode.

Breakup by Type:

- Nitrogen
- Oxygen
- Carbon Dioxide
- Argon
- Hydrogen
- Others

Nitrogen dominates the industrial gases market

The report has provided a detailed breakup and analysis of the industrial gases market based on the type. This includes nitrogen, oxygen, carbon dioxide, argon, hydrogen, and others. According to the report, nitrogen represented the largest market segment.

Nitrogen is a cost-effective, safe, and abundantly available gas that is widely used in preserving, purging, and blanketing applications. It also aids in preventing oxidation, corrosion, and spoilage in different industries. Furthermore, nitrogen provides a reliable and safe option for various processes, owing to its non-flammable and non-toxic nature, which assists in ensuring the well-being of workers and preventing potential hazards. Moreover, the implementation of supportive government policies to build a robust infrastructure for the production, storage, and distribution of nitrogen to ensure easy accessibility for various industries is acting as another growth-inducing factor. Apart from this, the incorporation of advanced production technologies to increase yield and provide a high level of purity is favoring the market growth.

Breakup by Application:

- Manufacturing
- Metallurgy

Energy
Chemicals
Healthcare
Others

Manufacturing holds the largest share in the industrial gases market

The report has provided a detailed breakup and analysis of the industrial gases market based on the application. This includes manufacturing, metallurgy, energy, chemicals, healthcare, and others. According to the report, manufacturing represented the largest market segment.

Industrial gases are widely used in manufacturing activities for various applications, such as welding, cutting, heat treatment, metal fabrication, chemical production, food processing, and electronics manufacturing. In addition to this, they aid manufacturers in optimizing processes, improving efficiency, streamlining operations, reducing costs, and increasing overall productivity. Furthermore, industrial gases also assist in maintaining strict quality and safety standards across manufacturing facilities by creating an inert environment and preventing microbial growth, oxidation, and corrosion of equipment and products. Apart from this, several key players are heavily investing in establishing extensive networks and distribution channels to cater to the growing demand for industrial gases in manufacturing operations. Moreover, the recent development of advanced manufacturing processes, such as three-dimensional (3D) printing, is facilitating the demand for industrial gases to create a controlled atmosphere, prevent contamination, and improve production efficiency.

Breakup by Supply Mode:

Packaged
Bulk
On-site

Packaged represents the leading supply mode in the industrial gases market

The report has provided a detailed breakup and analysis of the industrial gases market based on the supply mode. This includes packaged, bulk, and on-site. According to the report, packaged industrial gases represented the largest market segment.

Packaged industrial gases are delivered in compressed and liquified forms in cylinders

and tanks, which enhances convenience, increases portability, and allows easy transportation, storage, and handling across various industries. Furthermore, the widespread utilization of packaged industrial gases for multiple applications, such as welding and cutting operations, laboratory analysis, food and beverage processing, healthcare, metal fabrication, automotive repairs, and electronics manufacturing, is providing an impetus to the market growth. Moreover, the presence of a well-established network of industrial gas suppliers, including distribution centers, gas filling plants, and retail outlets, is strengthening the market growth. Apart from this, packaged industrial gases offer flexibility and customization options to address the specific applications and unique requirements of customers from various industries.

Breakup by Region:

Asia Pacific

North America

Europe

Middle East and Africa

Latin America

Asia Pacific exhibits a clear dominance in the market, accounting for the largest industrial gases market share.

The report has also provided a comprehensive analysis of all the major regional markets, which includes Asia Pacific, North America, Europe, Middle East and Africa, and Latin America. According to the report, Asia Pacific represented the largest market segment.

Asia Pacific holds the largest market share, owing to the rapid economic growth and increasing industrialization and infrastructural development activities. Furthermore, Asia Pacific is a lucrative manufacturing destination that allows companies to establish cost-effective production facilities for automobiles, electronics, chemicals, semiconductors, and machinery. These production facilities heavily rely on industrial gases for welding, cutting, heat treatment, and metal fabrication operations. Moreover, the rapid expansion of the healthcare industry in the Asia Pacific region, owing to the rising geriatric population, increasing health awareness, and growing investment in healthcare infrastructure, is facilitating the demand for industrial gases for various applications, such as respiratory support, anesthesia, and medical imaging.

Competitive Landscape:

The global industrial gases market is experiencing steady growth due to rapid industrialization activities across the globe. The top producers of industrial gases are focusing on expanding their global footprint by establishing new production facilities, distribution networks, and partnerships with local players. In addition to this, the increasing focus on sustainability has prompted several companies to develop energy-efficient production technologies that aid in attracting environmentally conscious customers, reducing environmental pollution, and contributing to greener industrial facilities. Furthermore, several top companies are incorporating automation and digital technologies to optimize operations, increase supply chain efficiency, and enhance customer experience.

The report has provided a comprehensive analysis of the competitive landscape in the global industrial gases market. Detailed profiles of all major companies have also been provided. Some of the key players in the market include:

Air Liquide S.A.

Linde Group

Air Products and Chemicals, Inc.

Airgas, Inc.

Recent Developments:

In May 2023, Air Liquide S.A. signed a memorandum of understanding (MoU) with Holcim to decarbonize its new cement production plant using Air Liquide's proprietary carbon capture technology.

In April 2023, Linde Groups has signed a long-term agreement with Evonik, a Singapore based specialty chemicals company. Under the agreement, Linde Group will build, own, and operate a nine-megawatt alkaline electrolyzer plant to produce and supply green hydrogen to Evonik.

In May 2022, Airgas, Inc. signed an agreement with Hyzon Motors, a multinational supplier of zero-emissions hydrogen fuel cell powered commercial vehicles. Under the agreement, Airgas Inc, will test Hyzon's two heavy duty hydrogen fuel cell trucks for its commercial activities.

Key Questions Answered in This Report

1. What was the global industrial gases market size in 2022?
2. What will be the global industrial gases market outlook during the forecast period (2023-2028)?
3. What are the global industrial gases market drivers?
4. What are the major trends in the global industrial gases market?

5. What is the impact of COVID-19 on the global industrial gases market?
6. What is the global industrial gases market breakup by type?
7. What is the global industrial gases market breakup by application?
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9. What are the major regions in the global industrial gases market?

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