Food-grade gas market to expand at a 5.61% CAGR to reach US$15.4 billion by 2030

The food-grade gas market is anticipated to increase at a CAGR of 5.61% to be valued at US$15.408 billion in 2030, from US$11.728 billion in 2025.

NEW YORK, NY, UNITED STATES, January 20, 2025 /EINPresswire.com/ -- As per a new study published by Knowledge Sourcing Intelligence, the food-grade gas market is projected to grow at a CAGR of 5.61% between 2025 and 2030 to reach an amount of US$15.408 billion in 2030.

> The rise in consumer awareness about food safety and quality is leading to food-grade gases being used for preserving product integrity and preventing spoilage while enhancing quality and freshness."
>
> *Analyst*

A food-grade gas is a gas that adheres to strict criteria for purity and has received approval for use in the food and beverage industry. The food comes in contact with these gases during processing, packaging, and storage activities. Among the common food-grade gases used in the food industry are oxygen, carbon dioxide, and nitrogen. Carbon dioxide ensures that beverages are carbonated, cools down food, and helps package atmospheres. Packaging gets a better perspiration barrier that lengthens the product's shelf life. In contrast, nitrogen and oxygen are widely applied to substitute oxygen-resistant barriers that prevent any living organism from developing within the pack. These gases are often confined with strict rules to ensure their safety and quality.

The food-grade gas market is driven by the increased demand for packaged and processed foods, a growing population in the world, and lifestyle changes among others. The use of food-grade gases is utterly significant for the longest possible duration up to the shelf life of the product. Population growth all over the world is increasing the number of hours of employment and the frequency of eating out, thus leading to the need for processed and packaged foods. Most of the latest food processing and packing technologies employ food-grade gases to enhance the quality, safety, and freshness of the product. The rise of consumer awareness about food safety and quality is increasing and leading to a rise in food-grade gases used for preserving product integrity and preventing spoilage.
With the emergence of the food-grade gas market, many market players are launching products and technologies to attract customers. For instance, in May 2023, Messer, the world's largest specialist in industrial gases, announced its plan to establish the world's largest CO2 recovery plant in Austria by early 2024, utilizing OASE® blue technology for CO2 recovery from the flue gas

of an industrial company. The recovered CO2 is planned to be processed in CO2 food grade, which will be consumed for secured supply in West Austria, South Tyrol, Eastern Switzerland, and Bavaria.

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By type, the food-grade gas market can be classified into nitrogen, carbon dioxide, oxygen, and others. The carbon dioxide segment is poised to have the largest share of the food-grade gas market due to its wide demand in the food industry for various reasons. For example, carbon dioxide is applicable in carbonation, modified atmosphere packaging, freezing, or as an acidulant. The growth of this market segment is also mainly fueled by the high demand for carbonated beverages and packaged foods worldwide during the forecasted years.
The food-grade gas market is segmented by solution into carbonation, freezing & chilling, packaging, and others. The packaging segment is projected to be the leader in the food-grade gas market in the type segment because of modified atmosphere packaging that alters the gas mixture to extend shelf life, maintain food quality, and upgrade food safety. Nitrogen, carbon dioxide, and oxygen are the major gases driving the key roles of microbial inhibition, freshness maintenance, and quality retention of food products. Changing consumption patterns towards ready-made food products, increased shelf-life, and reduced food waste are driving up growth rates for the packaging segment.

The food-grade gas market is divided by end-use products into bakery & confectionery products, beverages, convenience food products, dairy & frozen products, fruits & vegetables, meat, poultry, and seafood products, and others. The main category in the food-grade gas market is beverages because it is the primary utility in carbonation-the fizz, that is put into soft drinks, beer, and sparkling wine. As an example, currently, the entire world is concentrating on carbonated beverages, in turn demanding food-grade carbon dioxide. Modified atmosphere packaging (MAP) is also used on consumer convenience foods to enhance shelf life and maintain the freshness of meat, poultry, and seafood. The ready food products would require the gases of nitrogen and carbon dioxide, which will be later used for the enhancement of production to meet the booming market need.

Based on geography, the North American region of the food-grade gas market is growing significantly due to several factors, such as the growth of its food and beverage industry increase in consumer awareness about food safety and quality, the growth of the convenience food industry's use of various advanced technologies in packaging such as MAP in many packaging applications which mostly rely on food-grade gases. The demand for processed products, and various carbonated beverages is increasing in the region. Also, there is demand coming up for innovations in the food processing area in countries like the United States leading to growth in ready-to-eat meals and ready-to-use snacks, thus extending shelf life, which will lead to growth in the North American food-grade gas market in years to come.
As a part of the report, the major players operating in the food-grade gas market have been

covered as Air Liquide, Wesfarmers Ltd. (Coregas), Messer Group GmbH, SOL Spa, TOMCO2 Systems, and Tyczka Industrie-Gase GmbH among others.

The market analytics report segments the food-grade gas market as follows:

- By Type
  - Carbon Dioxide
  - Nitrogen
  - Oxygen
  - Others

- By Solution
  - Carbonation
  - Freezing & Chilling
  - Packaging
  - Others

- By End-Use Products
  - Bakery & Confectionery Products
  - Beverages
  - Convenience Food Products
  - Dairy & Frozen Products
  - Fruits & Vegetables
  - Meat, Poultry, & Seafood Products
  - Others

- By Geography
- North America
  - USA
  - Canada
  - Mexico
- South America
  - Brazil
  - Argentina
  - Others
- Europe
  - United Kingdom
  - Germany
  - France
  - Spain
  - Italy
  - Others
- Middle East and Africa

- UAE
- Israel
- Saudi Arabia
- Others

- Asia Pacific
  - Japan
  - China
  - India
  - South Korea
  - Indonesia
  - Thailand
  - Taiwan
  - Others

Companies Profiled:

- Air Liquide
- Air Products, Inc
- Wesfarmers Ltd. (Coregas)
- Linde plc
- Messer Group GmbH
- PeakGas
- SOL Spa
- TAIYO NIPPON SANSO CORPORATION
- TOMCO2 Systems
- Tyczka Industrie-Gase GmbH

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